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PROTOZOA

COMPILED BY

CECIL A. HOARE, D.Sc., F.R.S.,
and C. D. OVEY, B.Sc.

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2. PROTOZOA

ARRANGED BY

CECIL A. HOARE, D.Sc., F.R.S.

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CONTENTS

	PAGE
I. TITLES	2
II. SUBJECT INDEX :—	
General	65
Structure	68
Physiology	71
Development	77
Evolution and Genetics	77
Ecology	78
Economics	86
Distribution	92
III. SYSTEMATIC INDEX :—	
General	98
1. Rhizopoda	99
2. Mastigophora	118
3. Sporozoa	122
4. Ciliophora	123

FOREWORD

Papers dealing with Protozoa entirely from a medical or veterinary standpoint (clinical, therapeutic, etc.) are omitted, but notices of these will be found in *Tropical Diseases Bulletin* and *Veterinary Bulletin*.

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Bauriedel, W. R. see Picken, J. C.

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Young, M. D. *see* Burgess, R. W.

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Young, M. D. *see* Eyles, D. E.

Young, M. D. *see* Hunninen, A. V.

Young, M. D. *see* Jeffery, G. M.

Young, M. D. *see* McLendon, S. B.

Young, V. M. *see* Felsenfeld, O.

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II.—SUBJECT INDEX

GENERAL

Significance of planktonic foraminifera as indices of geological time, HOFKER **541**.

Text-books.—Protozoa in general, KÜHNELT **658**; General survey of the protozoa, BERTIN **102**; Radiolaria and foraminifera in life's history, TILLYARD **1166**; Protozoa in palaeontology, SCHINDEWOLF **1009**; Protozoa of Ireland, PRAEGER **899**; General outline of fossil protozoa, MELÉNDEZ **768**; Fossil rhizopods, KUHN **660**.

History.—History of physiology of parasitic protozoa, WRIGHT **1259**; Various protozoa as fossils, KUFFERATH **659**; Advances in knowledge of protozoal diseases (1900–1950), BOYD **126**; Development of knowledge of parasitic protozoa, GALLIARD **396**; Micropalaeontology in Mexico, MALDONADO-KOERDELL **736**; J. A. Cushman as one to work with, TODD **1170**; J. A. Cushman as a teacher, WATERS **1208**; Formation of American Society of Protozoologists, ANON. **10**; Certificate of incorporation of the Cushman Foundation of the Foraminiferal Research, ANON. **4**. History of the Cushman Laboratory for Foraminiferal Research, CUSHMAN **256**; Work done on the foraminifera by J. A. Cushman for the U.S. National Museum, SCHMITT **1015**; Foraminiferal work of J. A. Cushman for the United States Geological Survey, REESIDE **933**; Work done on foraminifera by J. A. Cushman for Harvard University, MATHER **755**; Note on the Cushman Collection of Foraminifera and its new location, LOEBLICH **704**; News of foraminiferal work in the Benelux countries, VOORTHUYSEN **1197**; Recent work on foraminifera, Pacific Coast, U.S.A., WISSLER **1251**; News of work on foraminifera in Scandinavia, BROTZEN **149**; Recent work on foraminifera in the West Indies, BRÖNNIMANN **142**; Historical record of the study and technique in examination of foraminifera, BIRKET-SMITH **107**; Recent work on foraminifera in Poland, BIEDA **105**;

News of foraminiferal work in Venezuela, DUSENBURY 319; Micropaleontology in Peru, STONE 1113; Recent work on foraminifera in India, RAO 915; Work on the radiolaria at Tokyo University, OINOMIKADO 829; Recent work on foraminifera in the East Indies, NEVE 821; News of foraminiferal work in Great Britain, OVEY 837; News of foraminiferal work, Gulf Coast, U.S.A., MALKIN 737; News of micropaleontological work, Mid-Continent, U.S.A., LALICKER 667; News of recent work on foraminifera in Germany, HILTERMANN 517; News of recent foraminiferal work in the Eastern United States, HENBEST 505; News of foraminiferal work in Austria, GRILL 469; News of recent work on foraminifera, radiolaria and other micro-organisms in France, CIZANCOURT 205; Recent foraminiferal work in Australia and New Zealand, CRESPIN 248; History of knowledge of parasitic amoebae of man (1849-1949), BELTRAN 86; Discovery of *Trypanosoma equinum* (1901-1941), B. 45; History of discovery of exoerythrocytic development of *Plasmodium*, FLOYÉ 891.

Biography; Obituary.—E. Beltran, ANON. 11; Adrianus Johannes Cosijn (1890-1945), THALMANN 1149; Joseph Augustine Cushman, TODD 1169; Reminiscences of J. A. Cushman, RAYMOND 926; Clifford Dobell, ANON. 6; BALL 56; CAULLERY 177; COLE 218; HOARE 524; HOARE & MACKINNON 533; LAUNOY 675; RODHAIN 959; SETERS 1045; SHORTT 1053; Carl Dons, Obituary and list of published works, SIVERTSEN 1071; Adolf Franke (1860-1942), THALMANN 1149; C. A. Kofoid, KIRBY 633; Adalbert Liebus (1876-1945), THALMANN 1149; Victor Madsen (1865-1947), THALMANN 1149; Walter James Parr, 1894-1949, CRESPIN 247; Jaroslav Perner (1869-1947), THALMANN 1149; W. A. P. Schüffner, FINDLAY 368, SWELLEN-GREBEL 1131, 1132; Alfred Senn, 1899-1949, VONDERSCHMITT 1193; C. M. Wenyon, CAULLERY 177.

Bibliography; Reviews.—List of works by E. Beltran, ANON. 11; Bibliography of the works of J. A.

Cushman, ANON. 3; List of papers on tropical medicine by W. A. P. Schüffner, SWELLEN-GREBEL 1131; List of Works by Carl Dons, SIVERTSEN 1071; Use of American Catalogue of Foraminifera, ELLIS 329; Models of foraminifera for reference and teaching, ELLIS 330; List of recent publications on foraminifera in Austria, GRILL 469; General criticism of "Contribution à l'étude de protozoaires," 1936, by S. Mihaëloff, HOOGENRAAD 549; Recent papers on micropaleontology in Germany, HILTERMANN 517; Use of new "planches inédites" of Alcide d'Orbigny's type and figured specimens of foraminifera, LYS 719; Descriptive cards of foraminifera issued as a service, McLEAN 731; List of recent works on paleocology (of foraminifera), MALKIN 737; Notice of new treatise on invertebrate paleontology with list of contributors to sections on protozoa, MOORE 786; Bibliography of recent foraminiferal literature, MESSINA 770; List of recent works on foraminifera, East Indies, NEVE 821; Note on catalogue of Japanese Tertiary smaller foraminifera, STACH 1100; Micropaleontology in Germany with bibliography, STAESCHE 1101; Bibliography and index to new foraminifera for 1949, THALMANN 1157; Check list of Tertiary smaller foraminifera, Japan, ASANO 37; Recent literature on the foraminifera, ANON. 5; Literature on foraminifera not available at American Museum of Natural History, ANON. 8.

Taxonomy and Nomenclature.—General classification, ULRICH 1179; Brief outline of the protozoa, BRESSE 137; Classification of the protozoa, BERTIN 102, BUISÁN 158, RINGUELET 952; Key to the protozoa, EDDY & HODSON 321; Listed protozoa of Iowa, SHAWHAN, etc. 1047; Conception of the pseudogenus in protozoa, DEFLANDRE 278; Nomenclature of protozoa parasites in man, BELTRAN 87, 88; Genera of parasitic amoebae, BELTRAN 89; Classification of the foraminifera, GALLOWAY 402; Classification of foraminifera, MELÉNDEZ 768; New names and homonyms in the foraminifera, THALMANN 1148; Determination of fusulinids by use

of a slide rule, WHITE 1234 ; "*Lockhartia*" *cushmani* Applin & Jordan placed in quotes as assignation to Genus *Rotalia* might be possible, but *Rotalia cushmani* already assigned to another species Applin & Jordan, 1945, APPLIN & JORDAN 32 ; Problem of taxonomy in genera and species of the Lagenidae, BARTENSTEIN 67 ; Inconsistency in the use of the gender in the generic and trivial names of foraminifera, BARTENSTEIN 65 ; The taxonomy of *Lenticulina*, THALMANN 1152 ; *Lagena samanica* Berry now considered to be termite pellet, STONE 1112 ; Method of study of foraminifera from the northern Red Sea, SAID 991 ; New name for an Eocene foraminifer, B.W.I., RENZ 945 ; *Bradya tergestina* Stache considered to be hydrozoan not foraminifera as originally described, SILVESTRI 1064 ; Classification of the Fusulinidae, OZAWA 838 ; Principal families of foraminifera, MELÉNDEZ 769 ; Use of new "planches inédites" of Alcide d'Orbigny's type and figured specimens of foraminifera, LYS 719 ; Rules of nomenclature concerning *Eponides* and confusion in its taxonomy, HOFKER 540 ; Re-grouping of recent Peneroplidae, HOFKER 539 ; *Ptychocladia* considered now to belong to the foraminifera and not to polyzoa, and *Chabakovia* to belong to the former and not to algae, ELIAS 325 ; Genotype and systematic position of *Sporadogenerina* Cushman, FRIZZELL 385 ; Relationships in Silicoflagellidae, DEFLANDRE 283 ; Systematic position of *Telonema subtilis*, HOLLANDE & CACHON 543 ; Systematics and biology of the freshwater Phytomastigina, HUBER-PESTALOZZI 553 ; Systematics and biology of the freshwater Phytomastigina, HUBER-PESTALOZZI 554 ; Relationship between Astasiacea and Euglenacea, PRINGSHEIM & HOVASSE 903 ; Identification of spp. of Myxosporidia, MEGLITSCH 767.

Technique.—Methods of study and cultivation of protozoa, TARTAR 1137 ; Staining technique, CANNON 167 ; Polyvinyl alcohol for fixing protozoa, BROOKE & GOLDMAN 147 ; Use of polarized light in the study of protozoa, SCHMIDT 1014 ; Method

of plankton collecting in Lake Emir, Turkey [protozoa in general], GELDIAI 418 ; Rapid haematoxylin staining for protozoa, SEN GUPTA, etc. 1036 ; Staining protozoa with protein silver, MOSKOWITZ 795 ; Method for microscopical detection of parasitic protozoa, BITTNER 113 ; Technique for examination of parasitic protozoa, WADSWORTH 1199 ; Reagents for rapid diagnosis of intestinal protozoa in faeces, KOHN 645 ; Single solution iron haematoxylin for staining intestinal protozoa, GOLDMAN 436 ; New stain for intestinal protozoa, EL KORDY 326 ; "J.S.B." method for rapid staining of blood films, JANSSENS 587a ; Staining method for intestinal amoebae, BRANDIS & PÖHN 133 ; Stain for intestinal amoebae in wet preparations, VELAT etc. 1187 ; Infection experiments with amoebae, Itô 575, 576 ; Density of amoebae by starch density gradient, LØVTRUP 712 ; Use of autoradiography in study of food-distribution in *Amoeba*, ANDRESEN, etc. 25 ; Structure of *Amoeba proteus* as revealed by polarized light, SCHMIDT 1013 ; Methods and techniques in work on foraminifera, BROTZEN 150 ; Models of foraminifera, ELLIS 330 ; Photographing small foraminifera, FOURNIER 380, HOFKER 542 ; Procedure for shale disintegration for the extraction of foraminifera, LAYNE 678 ; Method of eliminating gypsum from samples in the study of foraminifera, NELSON 816 ; Oriented thin-sectioning of foraminifera, CUMMINGS 252 ; Range chart as aid to foraminiferal correlation in stratigraphy, BURSCH 161 ; Serial sectioning of foraminifera, BIRKET-SMITH 107 ; Extraction of foraminifera by the disintegration of indurated siliceous rocks, BOLLI 118 ; Slide rule used in determination of fusulinids, WHITE 1234 ; Electron microscope in study of flagellum structure, PITEKKA 884 ; Electron microscope in the study of *Haematococcus pluvialis*, MÜHLFFORDT & PETERS 804 ; Low temperature incubator for *Euglena gracilis*, PICKEN & BAURIEDL 875 ; Collecting technique for coccoliths, BERNARD 100 ; Methods for study of trypanosomes, PINTO 882 ; Determination of electrical

charge of trypanosomes in blood films, FAIRBAIRN & CULWICK 343; Method for detecting Myxosporidia in tissues, MEGLITSCH 766; Parasitological diagnosis of malaria, PICASO GUILLEN 871; Thick blood film method for identification of malaria parasites, LEBOVITZ 683; Combined thin and thick films for malaria parasites, SHUTE 1054; Preparation of stained blood films for malaria parasites, JASWANT SINGH 592; New staining method for *Plasmodium* in blood, CHATTERJEE 184; Transfer of malaria parasites between blood films during mass staining, DONALDSON & BROOKE 305; Prevention of transfer of malaria parasites between blood films, BROOKE & DONALDSON 146; Dissection of mosquitoes for detection of *Plasmodium*, HODGKIN 534; Stain for oocysts of *Plasmodium* EYLES 340; Preservation of *Plasmodium* by freezing, SAUNDERS, etc. 997; Use of nigrosin for staining ciliates, ROSENBAUM 964; Isolation of individuals of ciliates for preparation of cultures, ROBERTS 957; Electron microscope detection of trichocysts in ciliates, KRÜGER 653; Photorecovery of the effects of ultra-violet radiation on *Paramecium aurelia*, KIMBALL & GAITHER 629; Methods in biology and genetics of *Paramecium aurelia*, SONNEBORN 1082; Extraction of mating reaction inhibiting agent from *Paramecium calkinsi*, METZ & BUTTERFIELD 773; Use of the electron microscope in detection of trichocysts in *Paramecium*, WOHLFARTH-BOTTERMANN 1253; Use of electron microscope in examination of *Paramecium* and *Opalina*, BRETSCHNEIDER 138.

STRUCTURE.

MORPHOLOGY.—General works: Text-books: Textbook of protozoology, REICHENOW 938; General structure of the protozoa, BERTIN 102, KÜHNERT 658, KRAMP 647; Key to the protozoa, EDDY & HODSON 321; Effects of sulphonamides on morphological changes in protozoa, JIRA 600; Intestinal protozoa of guineapig, FAUST 356; Intestinal protozoa (including new forms) of guineapig, NIE 823; Examination of protozoa under the microscope, KAUDEWITZ 618;

Blood protozoa from New Zealand birds, LAIRD 664.

Rhizopoda: New *Pelomyxa*, KUDO 657; *Hydramoeba hydroxena* in Japan Hô 575, 576; New *Valkkampfia* from termite, FROILANO DE MELLO 388; Structure of *Amoeba*, WITTMANN 1252; Structure of *Amoeba proteus* as revealed by polarized light, SCHMIDT 1013; Density and volume of amoebae, LØVTRUP 712; *Amoeba* in American termite, WENRICH 1222; Structure of intestinal amoebae of man, ELSDON-DEW 331; *Entamoeba* in snakes, FANTHAM & PORTER 348; *Entamoeba muris*, NEAL 811; *Entamoeba* of cattle, NOBLE 825; New *Endolimax* from turtles, GUTIERREZ-BALLESTEROS & WENRICH 479; *Dientamoeba*, COSTA 236; New type of Rhizopoda, *Leukarachnion*, GEITLER 417; Note on certain Testacea, DECLOITRE 275; *Arcella* through the microscope, KOEPEL 644; Monograph on the Valvulinidae, CUSHMAN 257; General morphology of *Vaginulina legumen*, VAŠÍČEK 1184; Method of determining physical characters of fossil environments by variability of a thanatocoenosis in foraminifera, EMILIANI 333; General description of the foraminifera, HOFKER 538; Structure of Eocene Orthophragmins, RUIZ DE GAONA 980; Comparison of *Lepidocyclus zeijlmansi* and *L. birmanica*, RUTTEN 983; The apertural structure of *Globotruncana*, REICHEL 935; The structure and taxonomy of *Lenticulina*, THALMANN 1152; Direction of coiling in the Globorotaliidae, BOLLI 117; Apertural system and chamber structure in *Amphistegina*, BRÖNNIMANN 145; Abnormal development in recent and fossil Orbitolids, ABRARD 12; Determination of fusulinids by use of a slide rule, WHITE 1234.

Mastigophora: Flagellum structure of flagellata, PITELKA 884; Intestinal flagellates of wallaroo, KIRBY & HONIGBERG 635; Flagellates of termites, KIRBY 634; Parasitic flagellates from snakes, FANTHAM & PORTER 348; General characters of the coccoliths, BERNARD 100; Morphology of silicoflagellates, DEFLEANDRE 276; Study of living and fossil Silicoflagellidae, DEFLEANDRE

283; Structure and affinities of *Telonema subtilis*, HOLLANDE & CACHON **543**; The structure of *Haematococcus pluvialis* through electron microscope, MÜHLFORDT & PETERS **804**; Morphology of Astasia-cea and Euglenacea, PRINGSHEIM & HOVASSE **903**; *Trachelomonas* spp., SHIH **1050**; Morphology of *Peranema trichophorum*, CHEN **188**; Dinoflagellates with mineralized thecae, DEFlandre **277**; *Callimastix* from *Cyclops*, WEISSBERG **1215**; New *Leptomonas* of crane-fly, KRAMAR **646**; *Leptomonas* in cat flea, LAIRD **663**; New *Orithidia* from bug, GIBBS **427**; *Leishmania* spp., MOHIUDDIN **782**; Structure of *Leishmania* revealed by phase and electron microscopy, LOFGREN **711**; Trypanosome from monkey, *Cebus* sp., FLOCH & ABONNENC **375, 376**; Stages of trypanosome in salivary gland of mosquito, JASWANT SINGH, etc. **594**; New trypanosome from Mexican rat, PERRIN **860**; *Trypanosoma simiae* in sheep, PELLEGRINI **857**; *Trypanosoma simiae* in camel, PELLEGRINI **858**; Structure of *Trypanosoma cruzi*, PIZZI **885, 886**; Structure of *Trypanosoma rangeli* in Triatomid bugs, TOBAR & THIERMANN **1167**; New frog *Trypanosoma*, DIAMOND **292**; *T. vivax*, CURASSON & MORNET **254**; *Trypanophis* from Sagitta, ROSE & HAMON **963**; New *Monocercomonoides* from guineapig, RAY **917**; New *Prowazekella* from guineapig, RAY **918**; New *Prowazekella* and *Monocercomonoides* from guineapig, RAY **919**; Devescovich and Trichomonad flagellates of termites, GRASSÉ & HOLLANDE **453**; Structure of *Trichomonas prowazeki* and *T. brumpti*, HONIGBERG **548**; New *Trichomonas* from guineapig, RAY & SINGH **920**; New *Trichomonas* from rodents, WENRICH & SAKÉ **1223**; *Trichomonas augusta*, CHEN **187**; *Giardia* of chinchilla, GOLDSBY **439**; New *Holomastigotoides* from termite, FROILANO DE MELLO **387**; *Metastelionympha* gen. n. from millipede, FROILANO DE MELLO & UTTANGI **389**; *Joenia annectens*, SCHMIDT **1012**; *Palisporomonas* gen. n., SAEDLER **989**; Analysis of the skeleton of *Ebria*, DEFlandre **280**.

Sporozoa: Various (including new)

blood Sporozoa from African vertebrates, GARNHAM **407**; *Gregarina* in cat-flea, MIRSA **779**; New gregarines from *Sipunculus*, GOODRICH **442**; *Lankesteria* from Ascidian, MANN & BAHAMONDE **740**; New gregarine *Tipulocystis* gen. n. from crane-fly, KRAMAR **646**; Variation in gamontocysts and oocysts of Stylocephalid gregarines, FILIPPONI **365**; New *Aggregata* from prawn, GOODRICH **441**; New *Eimeria* of flying squirrel, RAY & SINGH **924, 925**; New *Haemogregarina* from New Zealand reptile, LAIRD **662**; New *Haemogregarina* from *Lepidosiren*, SCHOUTEN **1026**; Avian *Haemoproteus*, ORTEGA & BERENGUER **832**; Morphological comparison of 2 spp. of *Leucocytozoon*, FALLIS **344**; *Plasmodium* of Malay squirrels, FIELD & EDESON **362**; *Plasmodium* from snakes, FANTHAM & PORTER **348**; *Plasmodium brodeni*, HOOGSTRAAL, etc. **550**; Abnormal forms of *Plasmodium vivax*, JASWANT SING & NAIR **593**; Cultural forms of fowl *Plasmodium*, OLIVEIRA **830**; *Plasmodium* spp. of Algerian birds, SERGENT & SERGENT **1042**; *Plasmodium berghei*, RAFFAELE & BALDI **907**; *Plasmodium berghei* in various rodents, RAMAKRISHNAN & PRAKASH **910**; Morphological alterations in fowl *Plasmodium*, WILCOX etc. **1241**; *Hepaticocystis* of bat, GARNHAM **406**; Bovine piroplasms in Rumania, METIANU **772**; *Babesia* from Indian cat, MUDALIAR etc. **801**; *Babesia* spp. of rodents, RODHAIN **958**; *Babesia rodhaini* sp. n. from African wild rat, BERGE etc. **95**; Bovine *Anaplasma*, METIANU **771**; Criteria for identification of Myxosporidia, MEGLITSCH **767**; New Myxosporidia from fishes, GEORGEVITCH **421**, WEISER **1214**; *Henneguya* spp. from electric eel, JAKOWSKA & NIGRELLI **574**; New *Henneguya* from Fijian fish, LAIRD **661**; New *Ceratomyxa* from trout, NOBLE **824**; Vegetative forms of *Chloromyxum*, WILLIS **1242**; New Microsporidia from Cladocera, JIROVEC **602**; Microsporidia from Crustacea, SPRAGUE **1091**; Microsporidia from Chironomid larvae, JIROVEC **601**; Microsporidia from *Simulium* larvae, JIROVEC **603**; Hyperparasitic new *Gurleya*, HOVASSE **552**; New *Cocconema* from sturgeon, RAŠIN **916**; New *Thelohania* in crayfish,

SPRAGUE 1090; New *Octosporea* from Chironomid larvae, WEISER 1213; New *Dermocystidium* from oysters, MACKIN etc. 730; New *Dermocystidium* from perch, REICHENBACH-KLINKE 936; New *Haplosporidium* from mollusc, ARVY 35; New *Sarcocystis* from snake, PARENZAN 847; Undetermined Sporozoon hyperparasitic in nematode *Heterakis* from turkey, DESOWITZ 288.

Ciliophora: Morphogenesis of ciliates, LWOFF 718; Ciliates under the microscope, THALER 1145; Ciliates from Argentine Amphibia, OTAMENDI 834; Ciliates from Czechoslovakian mountain waters, ŠRAMEK-HUŠEK 1094; Ciliate [?] from human lung, AKRAM & SUBBA 18; Parasitic ciliates from snakes, FANTHAM & PORTER 348; General characters of psammophile ciliates, FAURÉ-FREMIET 352; Spp. of *Zelleriella* from Amphibia, SCHOUTEN 1025; Morphogenesis of gymnostome ciliates, FAURÉ-FREMIET 351; Morphology of Chonotrichida and Tentaculifera, GUILCHER 475; Morphogenesis and structural affinities in chonotrichous ciliates, GUILCHER 474; Comparative morphology of holotrichous trichostomes, FAURÉ-FREMIET 350; Comparative morphology between holotrichous Trichostomata and Hymenostomata, FAURÉ-FREMIET 349; New Astomata from Oligochaetes, GEORGÉVITCH 422; *Spirobütschliella* gen. n., HOVASSE 552; New *Conchophthirus* ectoparasitic on *Anodonta*, GEORGÉVITCH 420; *Cothurnia*, HAMILTON 489; Bipartition and morphogenesis in *Tillina magna*, TUFFRAU 1178; Morphogenesis in *Stentor*, WEISZ 1220; Methods in general biology and genetics of *Paramecium aurelia*, SONNEBORN 1082; *Paramecium caudatum*, DIEBSCHLAG 295; Structure of *Balantidium coli* and the status of *B. suis*, LAMY & ROUX 668; New Thymotricha, RAABE 906; Structure of Thymotrichous ciliates, CHATTON & LWOFF 185; New *Trichodina* from frog, CUNHA 253; General morphology of *Bursaria truncatella*, BARY 71; Morphology of *Cyclotrichium meunieri*, BARY & STUCKEY 73; New *Nyctotherus* from tadpoles, UTTANGI 1181; Ophryoscolecidae, WESTPHAL

1225; Peritrichida of Germany, NENNINGER 820; *Tachyblaston* parasitic on *Ephelota*, GRELL 463; Sexual differentiation in *Rhabdostyla*, FINLEY & NICHOLAS 371, 372, 373; Structure and function of tentacles in Suctorina, DRAGESCO & GUILCHER 311

Protista incertae sedis: New *Eperythrozoön* from pigs, SPLITTER 2087, 1089; Structure of *Toxoplasma*, WESTPHAL 1227.

CYTOLOGY.—Cytology of *Amoeba*, WITTMANN 1252; Cytology of Astasiacea and Euglenacea, PRINGSHEIM & HOVASSE 903; Cytology of the coccoliths, BERNARD 100; Structure of *Trichomonas augusta*, CHEN 187; Structure of *Trypanophis*, ROSE & HAMON 963.

Ectoplasm, membranes, etc.: On *Hydramoeba hydrozoena*, ITÔ 575, 576; Periplast and flagellum of trypanosomes revealed by electron microscopy, KLEINSCHMIDT & KINDER 640; Ecto- and endoplasm of *Opalina* through electron microscope, BRETSCHNEIDER 138; Compound formation in ciliates and suctorians, GRELL 462; External characters of ciliates, LWOFF 718; Structure and function of tentacles in Suctorina, DRAJESCO & GUILCHER 311.

Organellae of attachment: Attachment and mode of growth in Vorticellidae, BALLERINI 57.

Organellae of locomotion: Flagellum structure of Mastigophora, PITELKA 884; Cilia through the electron microscope, BRETSCHNEIDER 138.

Nucleus and cytoplasm: Structure of cytoplasm in amoeba seen by electron microscopy, BAIRATI 48, 49; LEHMANN 682; Constitution of the cytoplasm of amoebae, ITÔ 575, 576; Changes in nucleus following its removal from *Amoeba*, KASSEL & KOPAC 617; Nuclear modification in the foraminifera, LE CALVEZ 681; Nucleo-plasmic ratio in *Actinosphaerium eichhorni*, NOZAWA 828; Sex and fertilization in *Chlamydomonas*, SUOMALAINEN 1124; Pigments in coccoliths, LECAL-SCHLAUDER 680;

Cytology of silicoflagellates, DEFLANDRE 276 ; Nucleus of *Trypanosoma cruzi*, PIZZI 885, 886 ; Chromosomes in *Plasmodium*, McDougall 725 ; The nucleus and internal structures in ciliates, LWOFF 718 ; Structure of macronucleus in ciliates, BARIGOZZI 61 ; Comparison of nuclear organization of ciliates with that in wasps, GROSH 471 ; Nucleus and nucleic acids of *Chilodonella uncinatus*, SESHACHAR 1044 ; Multiconjugation in *Blepharisma*, WEISZ 1217 ; Rôle of macronucleus in *Blepharisma undulans*, WEISZ 1216 ; Rôle of macronucleus in conjugation of *Blepharisma undulans*, WEISZ 1218 ; Macronuclear thymonucleic acid in *Stentor*, WEISZ 1220 ; Distribution of alkaline phosphatase in *Colpidium campylum*, SULLIVAN 1123 ; Lipid synthesis in *Colpidium campylum*, SEAMAN 1031 ; Macro- and micro-nucleus in conjugation of *Paramecium*, SCHWARTZ, 1029 ; Cell-structure of *Paramecium*, MALACEYŃSKA-SUCHCITZOWA 735 ; Nucleic acids and proteins in *Paramecium*, MOSES 794 ; Inheritance of charges induced by N₂ mustard in *Paramecium aurelia*, var. 4, GECKLER 412 ; Induced mutation and retardation of cell division in *Paramecium aurelia*, KIMBALL 627 ; Effect of radiations in *Paramecium aurelia*, KIMBALL 628 ; Nucleo-plasmic ratio in *Paramecium caudatum*, NOZAWA 828.

Nuclear division : Nuclear division in free-living amoebae, SINGH 1069 ; Mitosis in cysts of *Entamoeba coli*, PADNOS & NIGRELLI 841 ; Mitosis in Rhizopod *Lesquereusia*, STUMP 1117 ; Mitosis in *Trypanosoma lewisi*, WOLCOTT 1254 ; Nuclear divisions in the course of sexual cycle in flagellates, CLEVELAND 207, 208, 209, 210 ; Mitosis in Devescovichid flagellates, GRASSÉ & HOLLANDE 453 ; Nuclear division in ciliates, LWOFF 718 ; Division of macronucleus in *Glaucoma pyriformis* and elimination of chromatin, DASS 268 ; Extra postzygotic nuclear division in *Paramecium caudatum*, DILLER 299 ; Cytological evidence for pronuclear interchange in *Paramecium caudatum*, DILLER 300.

Various internal structures : Lipoidal material in some parasitic pro-

tozoa, KHAJURIA 620 ; Function of cell inclusion in metabolism of *Chaos chaos*, HOLTER 545 ; Internal structure of *Telonema subtilis*, HOLLANDE & CACHON 543 ; Loss of kinetoplast in trypanosomes, HOARE 530, 531 ; Chondriome in *Trypanosoma cruzi*, PIZZI 885, 886 ; Parabasal in *Trichomonas*, HONIGBERG 547 ; Parabasal body in *Joenia*, SCHMIDT 1012 ; The kinetosome in ciliates, LWOFF 718 ; Pigmented granules in *Stentor* and *Blepharisma*, WEISZ 1219 ; Cytoplasmic bodies identical with "kappa" factor in "killer" strains of *Paramecium*, PREER 900 ; Structures of *Spirostomum* revealed by electron microscopy, FINLEY 369, 380 ; Multipole contractile vacuoles and pores in *Paramecium*, KING 631.

Cysts ; spores : Survival of young encysted *Amoeba proteus* upon desiccation, GALBRAITH & TAYLOR 395 ; Effect of bacteria on excystment of amoebae in soil, CRUMP 250 ; Spores of new gregarines from *Sipunculus*, GOODRICH 442 ; Spore of *Chloromyxum*, WILLIS 1242 ; Nature of cyst-membrane in Sarcosporidia, WANG 1206 ; Nature of pseudocysts in *Toxoplasma*, RODHAIN 962 ; Trichocysts in ciliates, KRÜGER 653 ; Trichocysts through the electron microscope, BRETSCHNEIDER 138 ; Trichocysts in *Paramecium* detected by the electron microscope, WOHLFARTH-BOTTERMANN 1253.

PHYSIOLOGY

General.—Reactions of populations of unicellular organisms to extreme changes in environment, DEMEREO 285 ; Lipoidal material in protozoa, KHAJURIA 620 ; Relation between cell size and nucleo-plasmic ratio, NOZAWA 828 ; Oxidation-reduction potential in experimental amoebiasis of cat, MORETTI 788 ; Ontogeny of *Globigerinatella insueta* from the Oligocene, Trinidad, B.W.I., BRÖNNMANN 140 ; Observations on marine Mastigophora, BUTCHER 163 ; The chrysomonads as microchemical reagents, PROVASOLI & HUTNER 904 ; Pigments in coccoliths, LECAL-SCHLAUDER 680 ; Electrical charge of trypanosomes, FAIRBAIRN & CUL-

WICK 343 ; Physiological properties of the ciliates, LWOFF 718 ; Morphogenesis and structural affinities in chonotrichous ciliates, GUILCHER 474 ; Particulate nature of "kappa" factor in *Paramecium*, PREER 900 ; Sensitivity and other physiological properties of *Paramecium caudatum*, DIEBSCHLAG 295 ; Physiology of thigmotrichous ciliates, CHATTON & LWOFF 185.

Nutrition, metabolism.—Carbohydrate metabolism of parasitic protozoa, BRAND 130 ; Effect of drugs on metabolism of parasitic protozoa, BUEDING 158 ; Effect of nutrition on protozoal infections, CLARK 206 ; Oxygen requirements of parasitic protozoa, MOULDER 799 ; Protein metabolism of parasitic protozoa, GEIMAN & MCKEE 416 ; Effects of sulphonamides on protozoan respiration, JIRA 600 ; Feeding habits of *Amoeba*, WITTMANN 1252 ; Acid phosphatase in human intestinal amoebae, BALAMUTH 51 ; Metabolism of amoeba, *Chaos*, HOLTER 544 ; Autoradiographic detection of the distribution of food in amoeba *Chaos*, ANDRESEN etc. 25 ; Function of cell inclusions in metabolism of *Chaos chaos*, HOLTER 545 ; Amylolytic activity of *Entamoeba*, MCCARTEN & GRIFFIN 721 ; Metabolism of *Entamoeba histolytica*, REES 930 ; Nutrition of *Entamoeba histolytica*, DESCHENS 286 ; Effect of high osmotic pressures on respiration of *Astasia klebsii*, DACH 264 ; Chemical requirements of chrysomonads, PROVASOLI & HUTNER 904 ; Synthesis of vitamins by *Chilomonas*, HOLZ 546 ; Nutrition of *Chilomonas paramecium* in bacteria-free cultures, SZABECKA 1072 ; Cultivation of *Peranema trichophorum*, CHEN 188 ; *Euglena* in connection with synthesis of vitamin B₁₂ ROBBINS etc. 956 ; Nutritional requirements of *Euglena viridis*, SCHÖENBORN 1024 ; Vitamin-requiring mutants of *Chlamydomonas*, LEWIN 695 ; Nutrition of *Herpetomonas*, WEBER etc. 1210 ; Growth requirements of Haemoflagellates in culture, COUDERT & MOREL 238 ; Metabolism of *Leishmania*, ADLER 13 ; Oxygen consumption in trypanosomes, BRAND etc. 132 ; Respiration of *Trypanosoma cruzi*, BRAILOVSKY &

PIZZI 129 ; Physiology of *Trypanosoma rhodesiense* and *T. gambiense*, TOBIE etc. 1168 ; Effect of plasma on respiration of *Trypanosoma hippicum*, HARVEY 498 ; Physical method of ingestion of prey in certain ciliates, FAURÉ-FREMIET & DRAGESCO 355 ; Capture and ingestion of prey in holotrichous gymnostomes, DRAGESCO 309 ; Biochemistry of *Tetrahymena*, KIDDER & DEWEY 622, 623, 624 ; STOKSTAD etc. 1111 ; Utilization of acetate by *Tetrahymena*, SEAMAN 1033 ; Purine and pyrimidine metabolism of *Tetrahymena*, KIDDER etc. 625 ; Acid formation by *Tetrahymena*, LOEFFLER & MCDANIEL 710 ; Flagellates as source of food for *Tetrahymena*, HALL 485 ; S-Amino acid requirements of *Tetrahymena*, GENGHOF 419 ; Phosphate uptake in *Tetrahymena*, ROTH etc. 966 ; Phosphatase activity in *Tetrahymena*, ELLIOTT & HUNTER 328 ; Inhibition of respiration in *Paramecium*, NELSON & KRUEGER 817 ; Feeding of *Nassula*, RIPSOM 953 ; Nutrition of *Carchesium*, SUGDEN & LLOYD 1120 ; Colloidal organic material suggested as food of *Carchesium polypinum*, SCHLICK 1011 ; Capture and ingestion of prey in tentacular infusoria, DRAGESCO & GUILCHER 310.

Properties of nucleus and cytoplasm.—Biochemistry of nucleated and non-nucleated amoebae, BRACHET 127 ; Birefringence of *Amoebae*, MITCHINSON 780 ; Reversible division and conjugation in *Actinosphaerium*, OSOGOE 833 ; Antigens of *Trypanosoma cruzi*, LASZLO 674 ; Compound formation in ciliates and suctoria, GRELL 462 ; Sterols in *Tetrahymena*, SEAMAN 1034 ; Rôle of macronucleus in *Blepharisma undulans*, WEISZ 1216 ; Rôle of macronucleus in conjugation of *Blepharisma undulans*, WEISZ 1218 ; Multiconjugation in *Blepharisma*, WEISZ 1217 ; The nucleus in the conjugation of *Paramecium*, SCHWARTZ 1029 ; Cytological evidence for pronuclear interchange in *Paramecium caudatum*, DILLER 300 ; Extra postzygotic nuclear division in *Paramecium caudatum*, DILLER 299 ; Conjugation of *Paramecium caudatum*, HIWATASHI 521 ; Nucleus

and nucleic acids of *Chilodonella uncinatus*, SESHACHAR 1044.

Secretion ; Excretion. — Protein and carbohydrate synthesis in *Chilomonas paramecium*, SULLIVAN 1122 ; Toxin produced by *Toxoplasma*, WEINMAN & KLATCHKO 1211 ; Elimination of kappa particles in *Paramecium* by chloromycetin, BROWN 151 ; Nucleic acids and proteins in *Paramecium*, MOSES 1794 ; Chromatin elimination in *Glaucoma pyriformis*, DASS 268 ; Lipid synthesis and growth in *Colpidium campylum*, SEAMAN 1031 ; Nucleic acids of *Chilodonella uncinatus*, SESHACHAR 1044 ; Nucleic acids and proteins in *Stentor*, WEISZ 1220 ; Function of contractile vacuole in Suctorian, RUDZINSKA & CHAMBERS 1376.

Growth ; Weight. — Effect of sulphonamides on growth in protozoa, JIRA 600 ; Effect of population growth on encystation of *Entamoeba histolytica*, EVERITT 339 ; Growth of *Monas* sp. in cultures with various media, IMAI & HATANAKA 567 ; Effect of high osmotic pressures on growth of *Astasia klebsii*, DACH 264 ; Effect of pH on growth of *Euglena viridis*, SCHOENBORN 1024 ; Growth of *Peranema trichophorum*, CHEN 188 ; Effect of malonate on growth of *Tetrahymena*, SLATER 1073 ; The growth-factor requirements of *Tetrahymena geleii*, ELLIOTT 327 ; Growth and lipid synthesis in *Colpidium campylum*, SEAMAN 1031 ; Colonial growth in Vorticellidae, BALLERINI 57 ; Influence of food on growth of *Tokophrya*, RUDZINSKA 974.

Reproduction. — Fusion of two amoebae, RUDZINSKA 975 ; Nuclear division in free-living *Amoebae*, SINGH 1069 ; Effect of rich starch on growth of *Entamoeba histolytica* culture, SPINGARN & EDELMAN 1086 ; Development of *Entamoeba histolytica* in different media, FAUST etc. 357 ; Gamete behaviour in *Chlamydomonas*, LEWIN 694 ; Fertilization in *Chlamydomonas*, SUOMALAINEN 1124 ; Reproduction in coccoliths, BERNARD 100 ; Fecundity of Stylocephalid gregarines, FILIPPONI 366 ;

Factors affecting population growth of *Tetrahymena*, HUDDLESTON 555 ; Rapid multiplication of *Cyclidium* sp. in putrefying sea-water, MATSUYA 758 ; Morphogenetic rôle of macronucleus in conjugation of *Blepharisma undulans*, WEISZ 1218 ; Mating types and pseudoselfing pairs in *Paramecium caudatum*, HIWATASHI 521 ; Effect of environment on population growth of *Tetrahymena*, BROWNING etc. 152 ; Influence of food on reproduction of *Tokophrya*, RUDZINSKA 974.

Vitality. — Survival of *Entamoeba histolytica* cysts in warm water, JONES & NEWTON 614 ; Chemoautotrophy in *Chilomonas paramecium*, COSGROVE 235 ; Survival of *Leishmania donovani* in ticks, FENG & LU 361 ; Survival of *Trypanosoma evansi* in citrated and phenolized blood, KRANEVELD & MANSJOER 650 ; Viability of *Plasmodium* after freezing, SAUNDERS etc. 997 ; Vitalisation of micronucleus in *Kahlia simplex*, HORVATH 551 ; Effect of nitrogen mustard on viability of *Paramecium*, GECKLER 413 ; Morphogenesis in *Stentor*, WEISZ 1220.

Regeneration. — Healing of lesions in ciliates, KLEIN 639.

Locomotion ; Movement. — Behaviour of protein molecules in relation to locomotion of amoebae, GOLDACRE & LORCH 435 ; Polarity of Myxamoebae in the slime mold *Dictyostelium discoideum*, BONNER 119 ; Movement of *Peranema trichophorum*, CHEN 188 ; Effect of chemicals on motility of trypanosomes, IVANOV & UMANSKAYA 577 ; Effect of enzymes on ciliary movement in *Tetrahymena*, SEAMAN 1032 ;

Sexuality. — Sexuality in the foraminifera, LE CALVEZ 681 ; The proloculum in micro- and macrospheic individuals of *Vaginulina legumen*, VAŠIČEK 1184 ; Sex and fertilization in *Chlamydomonas* SUOMALAINEN 1124 ; Inheritance of sexuality in *Chlamydomonas reinhardtii*, SMITH & REGNERY 1078 ; Hormone-induced sexual cycles in flagellates, CLEVELAND 207, 208, 209, 210 ; Experimental induction of conjugation in ciliates, POPOFF 895 ; Sexual

behaviour in *Paramecium*, WICHTERMAN 1236; Conjugation in *Balantidium coli*, LAMY & ROUX 668; Sexual differentiation and conjugation in *Rhabdostyla*, FINLEY & NICHOLAS 371, 372, 373.

Effects of environment and stimuli.

—Effect of freezing on cysts of human intestinal protozoa, GOLDMAN & JOHNSON 438; Effect of X-rays on division of *Pelomyxa*, DANIELS 267; Reaction of *Pelomyxa carolinensis* to electric current, DANIEL & MAY 266; Effect of oxidation-reduction potentials on *Entamoeba histolytica*, JACOBS 580; Effect of X-rays on *Entamoeba histolytica*, SADUN etc. 987; Effect of heat on cysts of *Entamoeba histolytica*, CHANG 181; Effect of centrifuging on *Entamoeba histolytica*, WYKOFF 1260; Effect of magnetic field on cytoplasm of *Flabellula*, BLACK 114; Effect of high osmotic pressures on growth and respiration of *Astasia klebsii*, DACH 264; Effect of pH on *Euglena*, LOEFER & GUIDO 709, SCHOENBORN 1024; Effect of X-rays on *Trypanosoma cruzi*, EMMETT 335; Effect of temperature on sporogony of rabbit *Eimeria*, ŠIBALIĆ 1056; Effect of radiation on development of fowl *Plasmodium*, HAHN etc. 484; Rapid multiplication of *Cyclidium* sp. in putrefying sea-water, MATSUYA 758; Effect of temperature changes on ciliates, POLJANSKY 893; Effect of gonadotropic hormones on intestinal ciliates of frogs, BIENARZ 106; Induced mutation and retardation of cell division by ultraviolet radiation in *Paramecium aurelia*, KIMBALL 627; Effect of radiations on genetic mechanisms of *Paramecium aurelia*, KIMBALL 628; Photorecovery of the effects of ultraviolet radiation on *Paramecium aurelia*, KIMBALL & GAITHER 629; Action of killing agents on mating types of *Paramecium caudatum*, HIWATASHI 522; Mating reaction inhibiting agent from *Paramecium calkinsi*, METZ & BUTTERFIELD 773; Resistance to paramecin in var. 2, *Paramecium aurelia*, PREER & BLAUCH 901; Effects of high dosages of X-rays in *Paramecium aurelia*, POWERS & SHEFFNER 898.

Effects of chemicals.—Biochemical genetics in protozoa, PONTECORVO 894; Effect of drugs on metabolism of parasitic protozoa, BUEADING 157; Effect of antibiotics on protozoa, JIROVEC 604; Effect of antibiotics on human intestinal protozoa, FELSENFELD etc. 360; Effect of chloromycetin on protozoa, LOEFER 708; Effect of prodigiosin on parasitic protozoa, FELSENFELD etc. 359; Effect of sulphonamides on protozoa, JIRA 600; Effect of alcohols on amoebae, HILLER 515; Effect of drug-treated and normal serum on *Entamoeba histolytica*, BONNIN etc. 122; Effect of drugs on *Entamoeba histolytica*, SCHNEIDER & MONTEZIN 1017, FULTON etc. 391; *In vitro* effect of chemicals on *Entamoeba histolytica*, ANASTOPOULOS & BIRCH 23; Effect of conessine on *Entamoeba histolytica*, BONNIN etc. 120, 121; Effect of chemicals on cysts of *Entamoeba histolytica*, NEWTON 822; Chemical elimination of bacteria from cysts of *Entamoeba histolytica*, ISHINO 570; Effect of new Bi-As compound on *Entamoeba histolytica*, EL DIN NOR EL DIN 323; Effect of antibiotics and other drugs on *Entamoeba histolytica*, THOMPSON etc. 1164; Effect of antibiotics on *Entamoeba histolytica*, BRADIN & HANSEN 128, ANDERSON & ANDERSON 24, MOST etc. 797, WATT & VANDERGRIFF 1209, JONES 616; Effect of aureomycin on *Entamoeba histolytica*, HEWITT etc. 512, WESTPHAL 1228; Effect of terramycin on *Entamoeba histolytica*, GUTIÉRREZ BALLESTEROS & TREVIÑO VILLASEÑOR 478, MOST & VAN ASSENDELFT 798; Effect of various media on cultures of *Monas* sp., IMAI & HATANAKA 567; Chemoautotrophy in *Chilomonas paramecium*, COSGROVE 235; Chemotaxis in *Peranema trichophorum*, CHEN 188; Effect of antibiotics on *Euglena* in culture, GOODWIN 443; Effect of drugs on *Histomonas*, SAUTTER etc. 1000, SAUTTER & POMEROY 998; Effect of antimony compound on *Leishmania*, ANSARI etc. 30; Effect of antimonial on *Leishmania donovani*, GERMUTH etc. 423; Effect of antrycide on trypanosomes, CURD & DAVEY 255, DAVEY 270, ROUBAUD & BOURDIÉ 971; Spontaneous As-resistance in try-

panosome, KROO & RODRÍGUEZ-PÉREZ 652 ; Effect of benzoic acid derivative on trypanosomes, PICK 874 ; Effect of antrycide and dimidium on trypanosomes, GOODWIN & WALLS 446 ; Effect of quinaldine derivatives on trypanosomes, GOBLE 434 ; Effect of tyrocidine on *Trypanosoma cruzi*, AMREIN 22 ; Effect of pentaquine, quinine and chloroquine on *Trypanosoma cruzi*, JARPA etc. 590 ; Ineffectiveness of a thiosemicarbazide derivative against *Trypanosoma cruzi*, JARPA etc. 589 ; Ineffectiveness of antibiotics against *Trypanosoma cruzi*, JARPA etc. 588 ; Effect of phenanthridine compounds on *Trypanosoma congolense* and *T. rhodesiense*, BROWNLEE etc. 153 ; Effect of pentamidine on *Trypanosoma gambiense*, LAUNOY 676 ; Effect of naganol and arsocoll in Surra, KRANEVELD & DJAENOEDIN 648 ; Effect of naganol on *Trypanosoma evansi*, CARRERA 164 ; Inhibition of acriflavine-fastness in *Trypanosoma equiperdum*, SCHNITZER & KELLY 1019 ; Effect of drugs on *Trichomonas*, HEYBERGER 513 ; Effect of glutamic acid derivatives on *Trichomonas*, BACK etc. 46 ; Effect of aureomycin on *Trichomonas hominis*, KLEEBERG & BIRNBAUM 638 ; Effect of "viacutan" on *Trichomonas vaginalis*, SLUMING 1075 ; Effect of drugs on *Trichomonas foetus*, PIERCE & MORGAN 880 ; Effect of nitrofurans on *Trichomonas foetus*, COLE 217 ; Effect of drugs on coccidia, SPREEN 1092 ; Effect of drugs on fowl *Eimeria*, PETERSON & HYMAS 863 ; Effect of nitrofurazone of fowl *Eimeria*, HARWOOD & STUNZ 499 ; Effect of sulphaguanidine on fowl *Eimeria*, BANKOWSKI 59 ; Effect on nitrofurazone on coccidia of turkeys, MOORE & BROWN 785 ; Effect of drugs on malaria parasites, KIKUTH 626, JASWANT SINGH 591 ; Effect of sulphonamides on susceptibility of host to infection with *Plasmodium*, TERZIAN 1142 ; Resistance of malaria parasites to paludrine, REDMOND 929 ; Effect of paludrine on human *Plasmodium*, CIUCA etc. 202 ; Effect of paludrine on *Plasmodium vivax*, GIOVANARDI etc. 430 ; Effect of chlorguanide on *Plasmodium vivax*, COOPER etc. 231 ; Resistance to chlorguanide in *Plasmodium vivax*, COOPER etc. 230 ; Effect of chlorguanide and chloroquine on *Plasmodium vivax*, LINTS etc. 699 ; Effect of camoquin of *Plasmodium vivax*, COATNEY etc. 214 ; Effect of pentaquine on *Plasmodium vivax*, COATNEY etc. 212 ; Effect of febri-fugine on *Plasmodium vivax*, COATNEY etc. 211 ; Effect of antibiotics on *Plasmodium vivax*, IMBODEN etc. 568 ; Effect of some drugs on *Plasmodium malariae*, MCLENDON & YOUNG 732 ; Effect of phenylhydrazine on monkey *Plasmodium*, RIGDON etc. 950 ; Effect of drugs on *Plasmodium berghei*, HILL 514 ; Effect of aureomycin on *Plasmodium berghei*, LEVADITI & VAISMAN 690 ; Effect of proguanil on *Plasmodium berghei*, THURSTON 1165 ; Effect of atebirin and resochin on avian *Plasmodium*, DRUCKER 313 ; Chlorguanide-resistance in bird *Plasmodium*, GRANT 452 ; Effect of drugs on *Plasmodium gallinaceum*, BISHOP & BIRKETT 109, GREENBERG etc. 459 ; Cross-resistance to drugs in fowl *Plasmodium*, BISHOP & MCCONNACHIE 112 ; Sulphadiazine-resistance in fowl *Plasmodium*, BISHOP & MCCONNACHIE 111 ; Paludrine-resistance of fowl *Plasmodium*, BISHOP & MCCONNACHIE 110 ; Effect of pantothenic acid in fowl *Plasmodium*, SCHINAZI etc. 1008 ; Effect of chloroquine on fowl *Plasmodium*, SICCA 1057 ; Effect of chlorguanide on fowl *Plasmodium*, GREENBERG 455 ; Effect of pterins of fowl *Plasmodium*, GREENBERG 456 ; Effect of diaminopyrimidines on fowl *Plasmodium*, GREENBERG & RICHESON 457 ; Effect of aureomycin on *Plasmodium gallinaceum*, RAMASWAMY etc. 911 ; Quinine resistance in fowl *Plasmodium*, KNOPPERS 641 ; Combined effect of drugs on *Plasmodium lophurae*, REILLY etc. 939 ; Effect of pamaquin on *Theileria*, NEITZ 815 ; Effect of drugs on *Toxoplasma*, THIEL 1158 ; Effect of drugs on free-living ciliates, JAMES 585 ; Effect of quinine and other chemicals on ciliates, SIMON 1068 ; Effect of phosphates on conjugation of ciliates, POPOFF 895 ; Effect of chemicals on *Glaucoma*, JIROVEC 605 ; Lytic action of alcohols on *Glaucoma*, MATALON etc. 754 ; Effect of various substances on

growth of *Tetrahymena geleii*, ELLIOT 327; Effect of chloromycetin on "killer" strains of *Paramecium*, BROWN 151; Responses induced by N_2 mustard compound in *Paramecium aurelia*, POWERS & RAPER 897; Inheritance of changes induced by N_2 mustard in *Paramecium aurelia*, GECKLER 412; Mating type substances in study of conjugation of *Paramecium caudatum*, HIWATASKI 522; Effect of aureomycin on *Balan- tidium coli*, AGOSIN etc. 16; Effect of terramycin on *Balan- tidium coli*, AGOSIN etc. 17.

Cyst-formation. — Excystation of soil amoebae, CRUMP 250; Excystation of *Entamoeba histolytica* without bacteria *in vitro*, REES etc. 932; Excystation of *Entamoeba histolytica* and *E. coli* under various *in vitro* conditions, REES 931.

Behaviour. — Desiccation and dispersal of *Amoeba proteus*, GALBRAITH & TAYLOR 395; Reaction of *Pelomyxa carolinensis* to electric current, DANIEL & MAY 266; Physical method of ingestion of prey in certain ciliates, FAURÉ-FREMIET & DRAGESCO 355; Capture and ingestion of prey in holotrichous gymnostomes, DRAGESCO 309; Capture and ingestion of prey in tentacular infusoria, DRAGESCO & GUILCHER 310; Function and structure of tentacles in Suctoria, DRAGESCO & GUILCHER 311.

Cultivation. — Cultivation of human intestinal amoebae (general), PETTAZZI 865; Factors affecting behaviour of parasitic amoebae in culture, GRIFFIN etc. 464, 465, 466; Cultivation of *Entamoeba histolytica*, GARIN & COUDERT 404; Physical state of medium for *Entamoeba histolytica*, NELSON 818; Oxidation-reduction potential in cultures of *Entamoeba histolytica*, MORETTI & CATROS 789; Effect of oxidation-reduction potentials on cultivation of *Entamoeba histolytica*, JACOBS 580; Culture methods for *Entamoeba histolytica*, INOKI etc. 569; Effect of rice starch on cultivation of *Entamoeba histolytica*, SPINGARN & EDELMAN 1086; Cultivation of *Entamoeba histolytica* on N.N.N. medium, BELTRAN & GUTIÉRREZ BALLESTEROS

90; Culture of *Entamoeba histolytica* with trypanosome, PHILLIPS 868, PHILLIPS & REES 869; Effect of different bacteria on culture of *Entamoeba histolytica*, JACOBS 581, SAITO 993; Culture of *Entamoeba histolytica* with single bacterium, HANSEN 492; Growth of *Entamoeba histolytica* in different media, FAUST etc. 357; New media for *Entamoeba histolytica*, RUYSENAARS 984, HALLMANN etc. 486; Bacterial factors influencing excystation of *Entamoeba histolytica in vitro*, ISHINO 570, 571, 572, 573; Excystation of human *Entamoeba* in different media, REES 931; Cultivation of coccoliths, BERNARD 100; Cultivation of phytoflagellates, PRINGSHEIM 902; Effect of pH on cultivation of *Euglena*, LOEFER & GUIDO 709; Cultivation of Haemoflagellates, COUDERT & MOREL 238; Cultivation of *Leishmania* spp., MOHIUDDIN 782; Row's medium for *Leishmania*, PATKAR 853; Cultivation of fish trypanosome, ENDO & SIKAMA 386; Culture of pathogenic trypanosomes, HENRARD & PEEL 506; Effect of temperature on cultures of *Trypanosoma cruzi*, PIZZI & CHRISTEN 888; Effect of tyrocidine on cultures of *Trypanosoma cruzi*, AMREIN 22; New medium for cultivation of *Trypanosoma rhodesiense* and *T. gambiense*, TOBIE etc. 1168; Cultivation of human intestinal flagellates, PETTAZZI 861; New medium for *Trichomonas vaginalis*, LASH 673; Cultivation of bovine *Trichomonas*, PIERCE & MORGAN 879; Cultivation of avian *Plasmodium* spp., MANWELL & BRODY 742; Extracellular cultivation of avian *Plasmodium*, TRAGER 1173; Tissue culture of fowl *Plasmodium*, LEWERT 692, OLIVEIRA 830; Cultivation of *Plasmodium lophurae* in erythrocyte suspensions from chicken, MCGHEE & TRAGER 728; Exoerythrocytic development of fowl *Plasmodium* in tissue culture, DUBIN etc. 315; Strains of Holotrichous ciliates maintained in bacteria-free cultures, CORLISS 232; Growth factors for *Tetrahymena*, STOKSTAD etc. 1111, KIDDER & DEWEY 622, 623, 624; S-amino acid requirement of *Tetrahymena*, GENGHOF 419; Sterile cultures of *Paramecium*, JOHNSON 612; Cultivation of

Balantidium coli, LAMY & ROUX 668.

DEVELOPMENT

Rhizopoda : Life cycle in the foraminifera, LE CALVEZ 681 ; Abnormal development in recent and fossil Orbitolittids, ABRARD 12 ; Life-cycle of new Rhizopod *Leukarchnion*, GEITLER 417.

Mastigophora : Sexual cycle in flagellates, CLEVELAND 207, 208, 209, 210 ; Development of *Callimastix* of *Cyclops*, WEISSENBERG 1215 ; Palisporogenesis in *Palisporomonas* gen. n., SAEDELER 989 ; Life-cycle of *Crithidia* in bug, GIBBS 427 ; Development of monkey (*Cebus*) trypanosome in Triatomid bugs, FLOCH & ABONNENC 375, 376 ; Development of *Trypanosoma cruzi* in pupae of butterfly, GOLDMAN 437 ; Development of trypanosomes of *brucei* group in tsetse-flies, FAIRBAIRN & CULWICK 342 ; Illustration of trypanosomes in proboscis and salivary glands of *Glossina*, BURTT 162 ; Life-cycle of *Trypanophis*, ROSE & HAMON 963.

Sporozoa : Fecundity of Stylocephalid gregarines, FILIPPONI 366 ; Schizogony of *Aggregata*, BAFFONI 47 ; Life-cycle of new *Eimeria* from squirrel, RAY & SINGH 924, 925 ; Exogenous development of *Isospora rivolta*, STOJANOVIĆ 1110 ; Life-history of *Plasmodium*, APARICIO GARRIDO 31, HUFF, 556 ; Development of *Plasmodium*, WESTPHAL 1226 ; "Sperm cells" in *Plasmodium*, McDougall 725 ; Criticism of exoerythrocytic development of malaria parasites, HUFF 557 ; Exoerythrocytic development of *Plasmodium*, MUDROW-REICHENOW 802, 803 ; Exoerythrocytic development of human *Plasmodium*, SHORTT 1051 ; Life-cycle of *Plasmodium falciparum* in *Anopheles*, SHUTE 1055 ; Pre-erythrocytic development of *Plasmodium falciparum*, PLOYÉ 890 ; Course of schizogony in *Plasmodium vivax*, HEINKEL 504 ; Exoerythrocytic stages of simian *Plasmodium*, COULSTON & ROBINSON 239 ; Life-cycle of *Plasmodium cynomolgi*, SHORTT 1052 ; Development of

Plasmodium berghei in various rodents, RAMAKRISHNAN & PRAKASH 910 ; Attempts to detect exoerythrocytic stages of *Plasmodium berghei*, GALLIARD & LAPIERRE 399 ; Exoerythrocytic stages of *Plasmodium berghei*, BERGHE etc. 94 ; *Plasmodium brodeni*, HOOGSTRAAL etc. 550 ; Exoerythrocytic stages in malaria parasite of squirrel, RAY 921 ; Life-cycle, including exoerythrocytic stages, of *Plasmodium vassalli*, FIELD & EDSON 362 ; Life-cycles of *Plasmodium* in Algerian birds, SERGENT & SERGENT 1042 ; Exoerythrocytic development of fowl *Plasmodium* in tissue culture, DUBIN etc. 315, GEIGY & BRITSCHGI 414 ; Course of infection of *Plasmodium* in fowls after cultivation in tissues, LEWERT 692, 693 ; Exoerythrocytic stages of *Plasmodium lophurae* in turkeys, BECKER & MANRESA 78, 79 ; Exoerythrocytic development of lizard *Plasmodium*, GARNHAM 408 ; Exoerythrocytic stages of *Hepato-cystis* in bat, GARNHAM 406 ; Life-cycle of Myxosporidia in fish, WEISER 1214 ; Life history of *Chloromyxum thyrsitis*, WILLIS 1242 ; Life-cycle of *Dermocystidium*, WEISER 1212 ; Life-cycle of new *Dermocystidium* from perch, REICHENBACH-KLINKE 936 ; Development of *Toxoplasma*, WESTPHAL 1227.

Ciliophora : Development, ontogeny and life-cycle of ciliates, LWOFF 718 ; Effect of gonadotropic hormones on reproduction of ciliates in frogs, BIENARZ 106 ; Life-cycle of *Balantidium coli* in culture, LAMY & ROUX 668 ; Life-cycle of *Cothurnia*, HAMILTON 489 ; Alternation of generations in *Tachyblaston* (Suctorian), GRELL 463.

EVOLUTION AND GENETICS.

Evolution, Phylogeny.—Shell abnormalities in successive generations of *Arcella hemisphaerica* and *Centropyxis aculeata*, NOZAWA 827 ; Phylogeny of the foraminifera, MELÉNDEZ 769 ; Development of foraminifera with geological time, SCHINDEWOLF 1010 ; The evolution of foraminifera in the passage beds of the Cretaceous and Tertiary, MARIE 746 ; Rates of evolution in perforate foraminifera,

SLOSS 1074; Evolutionary changes and migration in fusulinids, ELIAS 324; Morphological trends in the Lagenidae, BARTENSTEIN 67; Polyphyletism and parallel evolution in *Globotruncana*, SIGAL 1059; Direction of coiling in evolution of Globorotaliidae, BOLLI 117; Phylogenetic development of endothyroids, ZELLER 1268; Evolutionary tendencies in *Vaginulina legumen*, VAŠIČEK 1184; Phylogeny of the Radiolaria, DOGIEL 303; Evolution of the Silicoflagellidae, DEFLANDRE 276, 283; Evolution of flagellates in termites, KIRBY 634; Phylogeny and evolution of the genus *Ebriopsis*, DEFLANDRE 279; Light on evolution thrown by *Plasmodium*, CAMERON 166; Evolution and phylogeny in ciliates, LWOFF 718; Phylogeny of Thigmotricha, RAABE 906; Evolution of the Ancistrocomidae, thigmotrichous ciliates, CHATTON & LWOFF 185; Morphogenesis and structural affinities in chonotrichous ciliates, GUILCHER 474; Relationships in holotrichous trichostomes, FAURÉ-FREMIET 350; Relationships between holotrichous Trichostomata and Hymenostomata, FAURÉ-FREMIET 349.

Heredity.—Genetics of some protozoa, TATUM & PERKINS 1138; Inheritance of sexuality in *Chlamydomonas reinhardtii*, SMITH & REGNERY 1078; Roll of kinetosome in morphogenesis of ciliates, LWOFF 718; Inheritance of changes induced by N_2 mustard in *Paramecium aurelia*, GECKLER 412; Inheritance of "killer" trait in ciliates, GRELL 461; Mutation of "killer factor" in *Paramecium*, DIPPILL 302; Methods in genetics of *Paramecium aurelia*, SONNEBORN 1082; Inheritance of resistance to paramecin in *Paramecium aurelia*, PREER & BLAUCH 901.

Variation.—Conception of the pseudo-genus in protozoa, DEFLANDRE 278; Variation in the foraminiferal genus *Planularia*, HUSSEY & McNULTY 564; Variability in the tests of *Nodosarina*, MARCHESINI 743; Variation in the Silicoflagellidae DEFLANDRE 283; Production of akinetoplastic strains and races of *Trypanosoma evansi* by mutation, HOARE 530, 531; Variation in Stylocephalid gregarines, FILIPPONI 365;

Mutagenic effect of nitrogen mustard on *Paramecium*, GECKLER 413; Effect of radiations on genetic mechanisms of *Paramecium aurelia*, KIMBALL 628; Antigen variation in *Paramecium*, BEALE 74.

Biometry.—Nucleo-plasmic ratio in protozoa, NOZAWA 828; Statistical study of *Nodosaria*, MARCHESINI 743; Applied statistical study to *Eponides umbonata* var. *stellata*, EMILIANI 334.

ECOLOGY.

General.—Ecological significance of Pleistocene and Pliocene foraminifera, California, NATLAND 810; Species of *Polytoma* produced in culture from Prague, MOEWUS 781; Ecology of ciliates, FAURÉ-FREMIET 354; Effect of temperature changes on infusoria, POLJANSKY 893.

Behaviour.—Reactions of unicellular organisms to extreme changes of environment, DEMEREC 285; Quantitative distribution of planktonic protozoa, and vertical migration and seasonal variations in population in the Baltic, ROTHE 968; Mode of life of marine rhizopods, ŠČEDRINA 1005; Polarity of *Myxamoebae* in slime mold, *Dicystostelium discoideum*, BONNER 119; Tidal rhythm reflected by *Chromulina*, FAURÉ-FREMIET 353; Vertical migration and distribution of *Ceratium*, BRAUNS 234.

Habitat.—GENERAL: Depth distribution of marine planktonic protozoa in Iceland area, HENTSCH 509; Depth distribution of planktonic protozoa in Algiers neighbourhood, BERNARD 101; Method of determining physical characters of fossil environments by variability of a thanatocoenosis, EMILIANI 333; The relationship of temperature to the distribution of planktonic foraminifera, WISEMAN & OVEY 1250; Larger foraminiferal populations, THALMANN 1153; Bathymetric distribution of foraminifera in the northern Red Sea, SAID 991; Foraminifera in Cretaceous and Eocene Reef formations, HENSON 508; Pliocene boundary in the Netherlands based on ecology of foraminifera, VOORTHUYSEN 1194; Ecology of

Foraminifera in Plio-Pleistocene of Holland, VOORTHUYSEN 1195; Ciliates and Suctorina in underwater fouling, ALLEN & WOOD 19; *Paramecium* in the water contained in the "phytomelma" of *Scirpus silvaticus*, STRENZKE 1115; Peritricha living attached to ostracods, LUST 715.

AQUATIC: *Marine*.—Distribution of planktonic protozoa in waters of Florida, DAVIS 274; Quantitative variations in some planktonic protozoa off Algeria in winter 1949-50, KRUGER 654; Planktonic protozoa off China coast, SPROSTON 1093; The distribution of marine Rhizopoda in relation to mode of life, ŠČEDRINA 1005; Foraminifera in marine bottom communities, North sea, JONES 615; Ecology of marsh and bay foraminifera, PHLEGER & WALTON 870; Dinoflagellate populations in inshore waters, Miami, SMITH etc. 1077; Ecology of littoral psammophile ciliates, FAURÉ-FREMIET 352; Rapid multiplication of *Cyclidium* sp. in putrefying seawater, MATSUYA 758; Tintinnid populations in inshore waters, Miami, SMITH etc. 1077; Vertical distribution of Tintinnids in the Western Mediterranean, MASSUTI & NAVARRO 753.

Brackish.—Protozoa in Lake Balkal, BROOKS 748; Ecology of marsh and bay foraminifera, PHLEGER & WALTON 870.

Freshwater.—Protozoal plankton of Belgium, GILLARD 429; Ecological reconnaissance of protozoa in ponds and ditches of northern Florida, DICKINSON 293; Protozoa found in industrially defiled waters of River Billebergaån, Sweden, SÖRENSEN 1080; Ciliate attached to surface of *Cordylophora*, brackish water, Germany, CASPERS 173.

SOIL: Influence of bacterial environment on excystment of amoebae in soil, CRUMP 250.

SEWAGE: *Entamoeba* from sewage, Brazil, LEAL & AMARAL 679; *Entamoeba* from London sewage, NEAL 812; Purification of water by *Carchesium*, SUGDEN & LLOYD 1120.

Parasitism: GENERAL. — Host-Parasite Relationship: Parasitic protozoa developing in the host's liver, GARNHAM 409, 410; Effect of host's nutrition on protozoal infections, CLARK 206; Effect of entozoic protozoa on their ophidian hosts, FANTHAM & PORTER 348; Host-parasite relations in amoebiasis, DESCHIENS 287, MATHIS 757, REES 930, HOARE 526; Individual differences in susceptibility to *Entamoeba histolytica* infection, PAULLEY 854; Effect of *Entamoeba histolytica* on monkeys, MILLER 777; Experimental amebic hepatitis in cat, MORETTI & DESNUES 790; *Entamoeba histolytica* in guinea pigs, SADUN etc. 988, TAYLOR etc. 1139; Effect of *Entamoeba histolytica* on guinea pigs, CARRERA etc. 172; Host-parasite (turkey-*Histomonas*) relations in Blackhead, DESOWITZ 289; Effect of *Histomonas* infection on blood in turkeys, MCGUIRE & CAVETT 729; Host-parasite relations in Haemoflagellates, HINDLE 518; Effect of *Leishmania* on guineapig, TORRES etc. 1171; Relation of *Leishmania* to megakaryocytes, STARKOFF 1105; Effect of *Leishmania* on skin in dogs, HOEPLI & FENG 537; Effect of trypanosomes on respiration of rats, BRAND 131; Host-parasite relations in bovine trypanosomiasis, FIENNES 363; Infection of lepidopteran pupae with *Trypanosoma cruzi*, GOLDMAN 437; Effect of *Trypanosoma cruzi* on cancer in man, GALLIARD etc. 397; Effect of *Trypanosoma cruzi* on mice tumours, JEDELOO etc. 596, 597, HAUSCHKA 501; Effect of *Trypanosoma cruzi* on hamster and *Peromyscus*, CARIOLO etc. 169; Host-parasite relations between rabbit and *Trypanosoma cruzi*, AGOSIN & BADINEZ 15; Host-parasite relationship between rodents and *Trypanosoma evansi*, YUTUC & SHER 1267; Infection of pigs, dogs and horse with single *Trypanosoma evansi*, KRANEVELD & MANSJOER 651; Infection of nervous system of monkeys with *Trypanosoma rhodesiense*, STEWART 1108; Effect of *Trichomonas* on pigeons, STABLER 1097; Effect of *Trichomonas* spp. on mice, SCHNITZER etc. 1020; Distribution of *Trichomonas* in the gut of hamster, SAXE & BATIPPS 1003; Pathogeni-

city of *Trichomonas hominis*, HAMED 487; Pathological effect of gregarines on Crustacea, BALL 54; Gregarine in stomach of cat-flea, MIRSA 779; Degree of infection of *Blaps* with gregarines, FILIPPONI 366; Effect of coccidia on turkey, HAWKINS 503; Effect of coccidia on respiration of chickens, DAUGHERTY 269; Effect of coccidia on metabolism of chickens, HERRICK 511; Effect of coccidia on respiratory rate of caecum in chickens, JOHNSON & HERRICK 609; Effect of helminthic infection on coccidiosis of fowl, RIEDEL 948; Effect of *Eimeria acervulina* on fowl, MOYNIHAN 800; Effect of *Aggregata* on crustacean host, BAFFONI 47; Effect of *Leucocytozoon* on ducks, FALLIS etc. 345, CHERNIN 191; Host-parasite relations in malaria, SWELLENGREBEL 1130; Predilection of *Plasmodium vivax* for reticulocytes, KINKEL 632; Sporozoite-induced *vivax* malaria, COATNEY etc. 215; Blood changes in infections with *Plasmodium berghei*, BALDI 53; Effect of *Plasmodium berghei* on various rodents, RAMAKRISHNAN & PRAKASH 910, ADLER etc. 14; Effect of splenectomy on *Plasmodium berghei* in rat, GALLIARD & LAPIERRE 400; Blood picture of mice infected with *Plasmodium berghei*, GALLIARD & LAPIERRE 398; Histopathology of *Plasmodium berghei* infection in mouse, LEVADITI & VAISMAN 689; Behaviour of *Plasmodium berghei* in bat, RIEL 949; Absence of incubation period in *Plasmodium berghei* infection passed mechanically through mice, SCHNEIDER & SCHNEIDER 1018; Susceptibility of hamster and refractoriness of man and monkey to infection with *Plasmodium berghei*, DURAND & MATHIS 318; Effect of *Plasmodium* on ducks, BECKER 77; Host-parasite relationship in chicks infected with *Plasmodium*, SRINIVASAN etc. 1095; Exudative pericarditis produced in fowl by *Plasmodium*, PICK 873; Experimental infection of birds and mosquitoes with guinea-fowl *Plasmodium*, HUFF etc. 558; Behaviour of different strains of *Plasmodium gallinaceum* in chicks, GREENBERG etc. 460; Course of *Theileria* infection in calves, WILSON 1245; Host-restriction in *Babesia*

spp. of rodents, RODHAIN 958; *Eperythrozoon* causing disease in pigs, SPLITTER 1087, 1089; *Toxoplasma* in the blood of its hosts, JACOBS & JONES 582; *Toxoplasma* in human blood, SULKIN etc. 1121; Host-parasite relations between *Ephelota* and *Tachyblaston*, GRELL 463; Host-parasite relations between Gastropod molluscs and Peritrichous ciliates, HIRSHFIELD 519; Host-specificity of ectozoic Peritrichous ciliates, NENNINGER 820; Ciliates parasitic on gills of fish, REICHENBACH-KLINKE 937; Relationship between cattle and Ophryoscolecidae, WESTPHAL 1225.

Transmission, infectivity: Transfer of intestinal protozoa from one rodent to another, SAXE 1002; Effect of centrifuging on infectivity of *Entamoeba histolytica*, WYKOFF 1260; Effect of carbohydrate diet on infection of rat with *Entamoeba histolytica*, GREENBERG & TAYLOR 458; Cross-infection of rodents with *Entamoeba* spp., NEAL 811; Experimental infection of rats with *Entamoeba histolytica*, McCOWEN & LAWLIS 722; Attempt to infect guineapigs with *Entamoeba moshkovskii*, LEAL & AMARAL 679; Effect of ascorbic acid on infection of guineapigs with *Entamoeba histolytica*, SADUN 986; Experimental amoebiasis in monkeys, MILLER 777; Transmission of *Histomonas* in turkeys through eggs of nematode, SWALES 1127; Experimental *Histomonas* infection of turkeys, SAUTTER etc. 999; Criticism of sandfly transmission of Kala Azar, BOUCHÉ 125, MALONE 738; Infection of hamster and cotton rat with *Leishmania*, FULTON etc. 390; Susceptibility of *Octodon* (rodent) to infection with *Trypanosoma cruzi*, CHRISTEN & NEGHEM 196; Trypanosome infections in *Glossina* of Portuguese East Africa, PIRES etc. 883; Favourable effect of trypanosome infections upon tsetse flies, ROUBAUD 970; Experimental infections of various mammals with *T. vivax*, CURASSON & MORNET 254; Infection of Hyrax with *Trypanosoma vivax*, SCHOENAEERS 1022, 1023; *Trypanosoma simiae* in sheep, PELLEGRINI 857; Effect of sulphonamides on susceptibility of host to infection with

Plasmodium, TERZIAN 1142; Susceptibility of N. American Anophelines to *Plasmodium vivax*, BURGESS & YOUNG 159; Susceptibility of Anophelines to *Plasmodium falciparum*, JEFFERY etc. 598; Anophelines susceptible to infection with American *Plasmodium falciparum*, EYLES & YOUNG 340; Experimental infection of gerbil with *Plasmodium berghei*, SERGENT & PONCET 1041; Susceptibility of mice to *Plasmodium berghei*, RAMAKRISHNAN & PRAKASH 909; Transmission of *Plasmodium berghei* by *Anopheles durenii*, VINCKE & LIPS 1188; Infection of Anophelines with avian *Plasmodium*, HUNNINEN etc. 561; Infectivity of avian *Plasmodium* to erythrocytes of other animals, MCGHEE 727; Transmission of *Plasmodium relictum* to pigeons, REDMOND 928; Intra-abdominal inoculation of fowls with *Plasmodium*, PICK 872; Chicks infected with exoerythrocytic stages of *Plasmodium gallinaceum* from tissue culture, LAIRD etc. 665; Hereditary transmission of *Theileria* in tick, RAY 923; Transmission of anaplasmosis, DIKMANS 298; Transmission of *Toxoplasma*, JACOBS etc. 583; Arthropod-transmission of *Toxoplasma*, BLANC etc. 115; Transmission of *Toxoplasma* by blood, LAVEN & WESTPHAL 677; Susceptibility of squirrels to infection with *Toxoplasma*, RODHAIN 961; Congenital toxoplasmosis in mice, COWEN & WOLF 242, 243, 244; Transmission of human *Plasmodium*, YOUNG 1266.

"Carriers", "reservoirs": Carriers in human amoebiasis, HOARE 526; Reservoir hosts of Chagas' disease revealed by xenodiagnosis, FREITAS 384; Reservoir hosts of *Trypanosoma cruzi* in U.S.A., PACKCHANIYAN 840; Rat as reservoir of *Plasmodium berghei*, LEVADITI & VAISMAN 689; Dog as reservoir of human toxoplasmosis, WESTPHAL & FINK 1229.

Immunity, serology: Complement fixation in hepatic amoebiasis, HUSSEY & BROWN 563; Effect of antigen-treatment on resistance of rats against *Entamoeba histolytica*, SWARTZWELDER & MULLER 1129; Immunological relations between *Leishmania* spp., MOHIUDDIN 782; Antigens of *Trypanosoma cruzi*, LASZLO 674;

Immunological relations between strains of *Trypanosoma cruzi* and agglutination test for Chagas' disease, HAUSCHKA etc. 502; Resistance of mice to infection with *Trypanosoma cruzi*, PIZZI etc. 887, 889; "Conditioned haemolysis" in Chagas' disease, MUNIZ 805; Immunization against Surra, KRANEVELD & DJAE-NOEDIN 649; Immunity in bovine trypanosomiasis, FIENNES 363; Immunity against *Trypanosoma brucei* in deer-mouse, PACKCHANIYAN 839; Immunity and premunition in infections with blood protozoa, SERGENT 1037; Serological reactions in malaria, BENITEZ CALVO 92; Complement fixation test in malaria, SUTCLIFF 1125; Factors in bird plasma affecting natural immunity against *Plasmodium*, TRAGER & MCGHEE 1174; Immunity to malaria in African infants, GARNHAM 405; Immunity in monkey malaria, EKSEMPLETSKAYA 322; Immunity to *Plasmodium berghei*, CORRADETTI 233; Premunition in bird malaria, SERGENT & SERGENT 1042; Immunity to fowl *Plasmodium*, TALIAFERRO & TALIAFERRO 1136; "Sparing phenomenon" of duck plasma in *Plasmodium* infections, BECKER 76, BECKER etc. 82; Effect of chick plasma on *Plasmodium lophurae* in ducklings, BECKER & SCHWINK 81; Protective action of duck plasma against *Plasmodium* infection, BECKER & SCHWINK 80; Complement fixation in fowl malaria, DIEZ MELCHOR & APARICIO GARRIDO 297; Agglutinins to *Plasmodium* in ducks, TRAGER etc. 1175; Premunition in piroplasmosis and malaria, SERGENT & PARROT 1040; Immunity to *Theileria* in calves, WILSON 1246; Serological diagnosis of toxoplasmosis, WESTPHAL & MÜHLEFORDT 1231; Serological reaction in toxoplasmosis, PIEKARSKI 876; Dye-test for toxoplasmosis, WINSSER & MAKSTENICKS 1248, 1249, WESTPHAL & KNÜTTGEN 1230.

Parasitized Protozoa: *Spirobütschliella* (Ciliate) parasitized by *Gurleya* (Microsporidian), HOVASSE 552; *Ephelota gemmipara* parasitized by *Tachyblastus ephelotensis*, GRELL 463.

[Protozoa in relation to Disease—
See under Economics.]

Parasitism : Hosts.—**General :**

Peritrichan fauna on various organisms from Erlangen, Germany, MATTHES 760.

Listed paristic protozoa in Thailand, SUVATTI 1126.

List of parasitic amoebae, with their hosts, BELTRAN 89.

Domestic animals in S. Carolina : survey of blood protozoa, ATCHLEY 42.

Man :

Records and geographical distribution of human coccidiosis (*Iscospora*), ELSDON-DEW & FREEDMAN 332.

Other Mammalia :

Ciliates in rumen of American cattle, UZZELL etc. 1182.

Blood parasites in Colombian mammals, RENJIFO-SALCEDO 940.

Rodents : spp. of *Babesia* parasitic, RODHAIN 958.

Rodents : records of infection with *Entamoeba muris* and allied amoebae, NEAL 811.

Incidence of trypanosomes in Illinois rodents, NELSON 819.

Bats, blood (Mexico) : incidence of infection, with *Trypanosoma vespertilionis*, MAZZOTTI 764.

Cavia cutleri, caecum (India) : (1) *Prowazekella hareni* sp. n., *Monocercomonoides nimiei* sp. n. (Mastig.), RAY 918, 919 ; (2) *Trichomonas thukunei* sp. n. (Mastig.), RAY & SINGH 920.

Cavia porcella, intestine (U.S.A.) : *Caviomonas mobilis* gen. n., sp. n., *Monocercomonoides quadrifunilis* sp. n., *M. wenrichi* sp. n., *M. exilis* sp. n., *Chilomitus conexus* sp. n., *Monocercomonas pistillum* sp. n., *M. minuta* sp. n., *Hexamastix caviae* sp. n., *H. robustus* sp. n. (Mastig.), NIE 823.

Cavia spp. : intestinal protozoa, FAUST 356.

Cebus sp., blood (French Guiana) : *Trypanosoma* sp. (Mastig.), FLOCH & ABONNENC 375, 376.

Felis catus, blood (India) : *Babesia cati* sp. n. (Spor. Haemospor.), MUDALIAR, ACHARY & ALWAR 801.

Macropus robustus, intestine (captive San Francisco) : *Trichomonas guttula* sp. n., *Retortamonas mitrula* sp. n. (Mastig. Zoomastig.), KIRBY & HONIGBERG 635.

Microtus pennsylvanicus and other rodents, intestine (U.S.A.) : *Trichomonas microti* sp. n. (Mastigoph.), WENRICH & SAXE 1223.

Petaurista inornatus, intestine (India) : *Eimeria petauristae* sp. n. (Coccid.), RAY & SINGH 924, 925.

Pig [*Sus scrofa*], blood (U.S.A.) : *Eperythrozoon suis* sp. n., *E. parvum* sp. n. (Prot. incert. sedis), SPLITTER 1087, 1089.

Rabbits (domestic), intestine (California) : Incidence and spp. of *Eimeria* (Sporoz. Coccid.), LUND 714.

Rattus spp. (China) : check list of parasitic protozoa, LI & HSÜ 697.

Rattus norvegicus (Mexico) : incidence of intestinal protozoa, BELTRAN & PEREZ 91.

Thamnomys s. surdaster, blood (Belgian Congo) : *Babesia rodhaini* sp. n. (Haemospor.), BERGHE, VINCKE CHARDOME & BULCKE 95.

Aves :

Birds of S. Carolina, U.S.A. : record of blood protozoa, HUNNINEN & YOUNG 560.

Blood protozoa from New Zealand birds, LAIRD 664.

Birds of Hudson Bay : incidence of coccidial infections, LEVINE & HANSON 691.

Birds (listed) of Mexico : results of examination for blood protozoa ; record of *Plasmodium*, PARDIÑAS 846.

Birds blood (Mexico) : incidence of protozoa, PARDIÑAS 845.

Host-parasite list of *Haemopro-*teus recorded from birds, ORTEGA & BERENGUER 832.

Blood protozoa in Colombian birds, RENJIFO SALCEDO 940.

Incidence of *Trichomonas gallinae* in Columbidae of Colorado, STABLER 1096.

Argya rubiginosa, blood (Uganda): *Atoxoplasma argyae* gen. n., sp. n. (Sporoz.), GARNHAM 407.

Athene noctua, blood (Spain): *Haemoproteus multiparasitans* sp. n. (Sporoz.), ORTEGA & BERENGUER 832.

Carduelis carduelis, blood (Spain): *Haemoproteus macropigmentatus* sp. n., *H. globulosus* sp. n. (Sporoz.), ORTEGA & BERENGUER 832.

Chloris chloris, blood (Spain): *Haemoproteus chloriis* sp. n. (Sporoz.), ORTEGA & BERENGUER 832.

Columba f. fasciata, (1) blood (U.S.A.): Incidence of Haemosporidia, STABLER & LIMBERG 1098; (2) crop (U.S.A.): incidence of *Trichomonas gallinae*, STABLER & MATTESON 1099.

Gallus gallus, caecum (U.S.A.): Incidence of parasitic flagellates, McDOWELL 726.

Quiscalus g. quisqualis, blood (U.S.A.): Incidence of Haemosporidia, MANWELL 741.

Sparrow, domestic, blood: Haemosporidia found in Algeria, SERGENT & SERGENT 1042.

Streptopelia turtur, blood (Spain): *Haemoproteus turtur* sp. n. (Sporoz.), ORTEGA & BERENGUER 832.

Struthio camelus, blood (Africa): *Aegyptiannella pullorum* (Piroplasm), RECEVEUR & THOMÉ 927.

Turdus merula, blood (Sweden): first record of *Plasmodium*, WINGSTRAND 1247.

Zenaidura macroura marginella, crop (U.S.A.): incidence of *Trichomonas gallinae*, STABLER & MATTESON 1099.

Reptilia :

Snakes of South Africa: description of parasitic protozoa, FANTHAM & PORTER 348.

Reptilia of Leningrad region: protozoa found, MARKOV 749.

Ablabophis rufulus, intestine (S. Africa): *Balantidium serpentis* sp. n., *Chilodon cyprini* var. n. *serpentis*, *Nyctotherus ophidia* sp. n. (Ciliata), FANTHAM & PORTER 348.

Agama colonorum, blood (Uganda): *Pirhaemocyton granosa* sp. n. (Sporoz.) GARNHAM 407.

Atractaspis leucomelas, muscles (Kenya): *Sarcocystis atractaspidis* sp. n. (Sarcospor.), PARENZAN 847.

Bitis arietans (S. Africa), (1) blood: *Plasmodium bitis* sp. n. (Sporoz.); (2) intestine: *Bodo lacertae* var. *ophidia* (Mastig.), FANTHAM & PORTER 348.

Bitis gabonica, intestine (S. Africa): *Trichomonas bitis* sp. n., *Bodo lacertae* var. n. *ophidia* (Mastig.), FANTHAM & PORTER 348.

Boaedon lineatum, intestine (S. Africa): *Bodo lacertae* var. n. *ophidia*, *Trichomonas pseudaspis* sp. n., *Mono-cercomonas ophidia* sp. n. (Mastig.); *Balantidium serpentis* sp. n., *Nyctotherus ophidia* sp. n., *Chilodon cyprini* var. n. *serpentis* (Ciliata), FANTHAM & PORTER 348.

Causus rhombeatus (S. Africa), (1) blood: *Plasmodium causi* sp. n. (Sporoz.); (2) intestine: *Bodo lacertae* var. n. *ophidia*, *Tricercomonas ophidia* sp. n., *Giardia serpentis* sp. n., *Hexamita xenopi* var. n. *ophidia* (Mastig.), FANTHAM & PORTER 348.

Crotaphopeltis degeni, blood (Uganda): *Hepatozoon minchini* sp. n. (Sporoz.), GARNHAM 407.

Dasypeltis scaber, intestine (S. Africa): *Bodo lacertae* var. n. *ophidia* (Mastig.), FANTHAM & PORTER 348.

Dispholidus typus, intestine (S. Africa): *Trichomonas dispholidi* sp. n. (Mastig.), FANTHAM & PORTER 348.

Lacerta jacksoni, blood (Uganda): *Haemogregarina hamata* sp. n. (Sporoz.), GARNHAM 407.

Naja melanoleuca, blood (S. Africa): *Plasmodium melanoleuca* sp. n. (Sporoz.), FANTHAM & PORTER 348.

Naja nigricollis, intestine (S. Africa): *Hexamita xenopi* var. n. ophidiæ (Mastig.), FANTHAM & PORTER 348.

Naja nivea, intestine (S. Africa): *Bodo lacertæ* var. n. ophidiæ (Mastig.), *Chilodon cyprini* var. n. ophidiæ (Ciliata), FANTHAM & PORTER 348.

Psammophis sibilans, blood (S. Africa): *Trypanosoma psammophis* sp. n. (Mastig.), FANTHAM & PORTER 348.

Pseudaspis cana, intestine (S. Africa): *Bodo lacertæ* var. n. ophidiæ, *Trichomonas pseudaspis* sp. n. (Mastig.), FANTHAM & PORTER 348.

Pseudemys floridana mobilensis, intestine (U.S.A.): *Endolimax clelandi* sp. n. (Rhizop.), GUTIERREZ-BALLESTEROS & WENRICH 479.

Python sebae (S. Africa): (1) blood; *Plasmodium pythonis* sp. n. (Sporoz.), *Trypanosoma sebae* sp. n. (Mastig.); (2) intestine: *Trichomonas pythonis* sp. n. (Mastig.), FANTHAM & PORTER 348.

Sphenodon punctatus, blood (New Zealand): *Haemogregarina tuataræ* sp. n. (Sporoz.), LAIRD 662.

Trimerorhinus tritaeniatius, intestine (S. Africa): *Balantidium serpentis* sp. n., *Nyctotherus ophidiæ* sp. n., *Chilodon cyprini* var. n. *serpentis* (Ciliata), FANTHAM & PORTER 348.

Amphibia :

Amphibia of Argentina: intestinal protozoa, with host-parasite list of *Zelleriella* spp. (Cil. Opalin.), OTAMENDI 834.

Zelleriella spp. from Paraguayan Amphibia, SCHOUTEN 1025.

Brevicipitidae: list of hosts with their protozoal parasites, WALTON 1205.

Bufo arenarum, intestine (Argentina): *Zelleriella carinii* sp. n. (Cilioph.), OTAMENDI 834.

Hylidae: list of reported parasitic protozoa, WALTON 1201.

Lepidosiren paradoxa, blood (Paraguay): *Haemogregarina bertonii* sp. n. (Sporoz.), SCHOUTEN 1026.

Leptodactylus ocellatus, intestine (Argentina): *Zelleriella cuneata* sp. n., *Z. excavata* sp. n., *Nyctotherus neivai* sp. n. (Cilioph.), OTAMENDI 834.

Polypedatidae: list of hosts and their protozoal parasites, WALTON 1204.

Rana curtipes (tadpoles), intestine (India): *Nyctotherus kalii* sp. n. (Ciliata), UTTANGI 1181.

Rana pipiens: list of reported parasitic protozoa, WALTON 1202.

Rana pipiens, blood (U.S.A.): *Trypanosoma pipientis* sp. n. (Mastig.), DIAMOND 292.

Rana ridibunda perezii, urinary bladder (Portugal): *Trichodina ranae* sp. n. (Ciliata), CUNHA 253.

Ranidae: list of hosts and their protozoal parasites, WALTON 1203.

Pisces :

Fishes [indet.], gills (Lake Ochrida): *Myxobolus ochridensis* sp. n., *M. turbinoides* sp. n. (Myxospor.), GEORGEVITCH 421.

Sporozoa in Wisconsin fishes, FISCHTAL 374.

Acipenser ruthenus, roe (Danube): *Coconema sulci* sp. n. (Microspor.), RAŠIN 916.

Electrophorus electricus, various organs (U.S.A.): *Henneguya* (3 spp. indet.) (Myxospor.), JAKOWSKA & NIGRELLI 584.

Gobio gobio, subcutaneous tissue (Czechoslovakia): *Myxobolus subepithelialis* sp. n. (Myxospor.), WEISER 1214.

Leiognathus fasciatus, heart (Fiji): *Henneguya vitiensis* sp. n. (Spor. Myxospor.), LAIRD 661.

Nemachilus (Cobitis) *barbatulus*, connective tissue (Czechoslovakia): *Myxobolus nemachili* sp. n. (Myxospor.), WEISER 1214.

Perca fluviatilis, skin (Germany): *Dermocystidium percae* sp. n. (Sporoz.), REICHENBACH-KLINKE 936.

Salmo gairdneri, viscera (California): *Ceratomyxa shasta* sp. n. (Spor. Myxospor.), NOBLE 824.

Trout: list of hosts and Myxosporidia reported from them, NOBLE 824.

Trutta fario, gills (Czechoslovakia): *Dermosporidium truttiae* sp. n. (Sporoz.), WEISER 1214.

Insecta:

Peritricha from beetles and bugs, Germany, JUST 716.

Calotermes baretoi and *Neotermes praecox*, gut (Madeira): *Macrotrichomonas hirsuta* sp. n. (Mastig.), GRASSÉ & HOLLANDE 453.

Camptochironomus tentans (larvae), body cavity (Germany): *Octosporea chironomi* sp. n. (Microspor.), WEISER 1213.

Cenaues carnifex, gut (S. Africa): *Crithidia familiaris* sp. n. (Mastigoph.), GIBBS 427.

Coptotermes sp., gut (India): *Vahlkampfia beltrani* sp. n. (Rhizop.), FROILANO DE MELLO 388.

Cryptotermes lamanianus, gut (loc. ?): *Achemon platycaryon* gen. n., sp. n. (Mastig.), GRASSÉ & HOLLANDE 453.

Ctenocephalides felis, Malpighian tubes (New Zealand): *Leptomonas ctenocephali* (Fanth. 1912) (Mastig.), LAIRD 663.

Culex fatigans, salivary glands (India): developmental forms of trypanosome (avian ?), JASWANT SINGH etc. 594.

Dystiscid beetles, oesophagus (Germany): *Operculariella parasitica* gen. n., sp. n. (Ciliata), STAMMER 1104.

Reticulitermes flavipes, gut (U.S.A.): Amoeba (indet.), WENRICH 1222.

Simulium-larvae (Europe): *Plis-tophora debaisieuxi* sp. n., *Nosema stricklandi* sp. n. (Microspor.), JIROVEC 603.

Termite (indet.), gut (India): *Holomastigotoides operculatum* sp. n. (Mastig.), FROILANO DE MELLO 387.

Termites [indet.], gut (loc. ?): *Devescovina duboscqui* sp. n. (Mastig.), GRASSÉ & HOLLANDE 453.

Termites: spp. of *Entamoeba* from gut. FROILANO DE MELLO 388; intestinal flagellates, KIRBY 634.

Tipula abdominalis (larvae), gut (Czechoslovakia): *Leptomonas lud-wigi* sp. n. (Mastig.), *Tipulocystis maximae* gen. n., sp. n. (Sporoz. Gregar.), KRAMAŘ 646.

Trichocladus sp. (larvae), fat body (Czechoslovakia), *Thelohania chironomi* sp. n. (Microspor.), JIROVEC 601.

Myriapoda:

Thyropygus sp., intestine (India): *Metastephanonympha karnataki* sp. n. (Mastig.), FROILANO DE MELLO & UTTANGI 289.

Crustacea:

Search for gregarines in Hawaiian marine Crustacea, BALL 55.

Ciliates attached to isopods, MATTHES 759.

Cambarus bartoni, muscles (U.S.A.): *Thelohania cambari* sp. n. (Spor. Microspor.), SPRAGUE 1090.

Daphnia spp., body cavity (Bohemia): *Bacillidium daphniae* sp. n. (Microspor.), JIROVEC 602.

Leander squilla, gut (Naples): *Aggregata leandri* sp. n. (Sporoz.), GOODRICH 441.

Penaeus aztecus, muscles (Louisiana coast): *Nosema nelsoni* sp. n. (Sporoz.), SPRAGUE 1091.

Penaeus sitiferus, gonads (Atlantic Ocean): *Thelohania penaei* sp. n. (Sporoz.), SPRAGUE 1091.

Sida crystallina, body cavity (Bohemia): *Duboscquia sidae* sp. n. (Microspor.), JIROVEC 602.

Mollusca:

Anodonta sp., pallial cavity (Yugoslavia): *Conchophthirus ochridensis* sp. n. (Ciliata), GEORGÉVITCH 420.

Crassostrea virginica, various tissues (Atlantic coast, U.S.A.): *Dermocystidium marinum* sp. n. (Spor. incert. sedis), MACKIN, OWEN & COLLIER 730.

Dentalium entale, pallial cavity (off Paramé): *Haplosporidium dentali* sp. n. (Sporoz.), ARVY 35.

Gastropods (California coast): incidence of parasitic Peritrichous ciliates, HIRSHFIELD 519.

Lithoglyphus naticoides, gut and body cavity (Hungary); *Hysterozineta horvathi* sp. n., *Ancistrina tihanyensis* sp. n. respectively (Ciliata), RAABE 906.

Annelida :

Criodrilus ochridensis, gut (Lake Ochrida): *Protoradiophryopsis ochridensis* gen. n., sp. n., *Anoplophrya pilosa* sp. n. (Ciliata), GEORGÉVITCH 422.

Oligochaete (indet.), gut (Lake Ochrida): *Metastomum vastum* sp. n. (Ciliata), GEORGÉVITCH 422.

Potamoceros triqueter, intestine (Mediterranean): *Spirobutschliella chattoni* gen. n., sp. n. (Ciliata), HOVASSE 552.

Sipunculus nudus, coelom (Naples): *Uraspora legeri* sp. n., *U. hardyi* sp. n., *Lithocystis lankesteri* sp. n. (Gregar.), GOODRICH 442.

Nemathelminthes :

Heterakis gallinae (parasitic in turkeys): hyperparasitized by undetermined protozoon, DESOWITZ 288.

Platyhelminthes :

Triclada (indet.), gut (lake Ochrida): *Sieboldiellina sphaeronucleata* sp. n. (Ciliata), GEORGÉVITCH 422.

Protozoa :

Spirobutschliella chattoni gen. n., sp. n. (parasite of *Potamoceros triqueter*), parasitized by *Gurleya nova* sp. n. (Microspor.), HOVASSE 552.

Plantae :

Batrachospermum spp., gonads: *Leukaracknion batrachospermi* (Rhizop.), GEITLER 417.

Symbiosis.—Mutualism in protozoa, HUNGATE 559; *Blepharisma lateritium* in symbiosis with alga *Chlorella conductrix*, from lake in Iowa, U.S.A., JOHNSON 611. *Stentor polymorphus* living in symbiosis with *Paramecium bursaria*, HÄMMERLING 481.

Pseudoparasitism.—So-called "protozoan cells" in human gastrointestinal ulcers, HARTZ 497.

ECONOMICS.

General.—*Monas* sp. as food for oyster larvae, IMAI & HATANAKA 567; Ciliates and Suctorina in underwater fouling, ALLEN & WOOD 19.

Petroleum sources.—Foraminifera in petroleum geology, BERMUDEZ 97; Use of American Catalogue of Foraminifera to Geological Surveys and Oil Companies, ELLIS 329; Micro-palaeontology in the petroleum companies of Mexico, MALDONADO-KOERDELL 736; Use of foraminifera in the Kirkuk oilfield, HENSON 507; The use of foraminifera in petroleum geology in Syria, CHENEVART 190; Foraminifera used in search for oil, Landes, France, CUVILLIER 262; Stratigraphical and palaeo-ecological problems in the use of foraminifera in petroleum geology, THALMANN 1146; Recent work on foraminifera by the petroleum companies of the Pacific Coast, U.S.A., WISSLER 1251; Recent work on the foraminifera by the petroleum companies in the West Indies, BRÖNNIMANN 142; Work of the Institut Français du Pétrole, CIZANCOURT 205; Recent work on foraminifera by Petroleum companies in Venezuela, DUSENBURY 319; The use of foraminifera in oil-bearing rocks of S.W. Iran, THOMAS 1160; Foraminiferal work by the petroleum companies in Colombia, PETTERS 866; Stratigraphic value of foraminifera and radiolaria in petroleum exploration, MILNER 778.

Soil protozoa.—Rôle of protozoa in soil, GISIN 431; Factors affecting excystation of soil amoebae, CRUMP 250.

Sewage protozoa.—Protozoa in sewage and polluted streams, WILSON 1244; *Entamoeba* in London sewage, NEAL 812; *Entamoeba* from sewage, Brazil, LEAL & AMARAL 679; Purification of water by *Carchesium*, SUGDEN & LLOYD 1120.

Protozoa in relation to disease.—(See also under Parasitism.)

General.—Parasitology (textbooks), SAWITZ 1001, CHANDLER 180; Parasitic protozoa of man (textbook),

SAWITZ 1001 ; Protozoa of veterinary interest, RINGUELET 951 ; Parasitic protozoa of man and war, LAPAGE 672 ; Sporozoa (general), HOARE 529 ; History of advances in knowledge of protozoal diseases, BOYD 126 ; Protozoal diseases in tropics, WILCOCKS 1240 ; Method for rapid diagnosis of human protozoa in faeces, KOHN 645 ; Comparative value of microscopic and cultural diagnostic methods for human intestinal protozoa, PETTAZZI 864 ; Immunity and premunition in infections with blood protozoa, SERGENT 1037 ; Methods used in examination for parasitic protozoa, WADSWORTH 1199 ; Control of insect-borne protozoal diseases, ANDREWS 28 ; Nomenclature of protozoa parasitic in man, BELTRAN 87, 88 ; Intestinal protozoa in patients with virus hepatitis, SHEEDY 1048 ; Intestinal protozoa in Eskimos, HITCHCOCK 520 ; Intestinal protozoa among American troops in Germany, BURLINGHAME & GARDNER 160 ; Intestinal protozoa in French children, COUTELEN 240, SIGALIS etc. 1061 ; Intestinal protozoa in Portuguese children, FRAGA DE AZEVEDO etc. 381 ; Intestinal protozoa of Moroccan natives, BECMEUR etc. 84 ; Human intestinal protozoa in Honduras, HOEKENGA 535 ; Incidence of intestinal protozoa in children of Buenos Aires, DIOS etc. 301 ; Incidence of human intestinal protozoa in Chile, NEGHME & SILVA 813 ; Intestinal protozoa among Chinese students in U.S.A., WONG & MARTIN 1255 ; Parasitic human protozoa in China, HOEPLI 536 ; Survey of intestinal protozoa in Japan, HUNTER etc. 562, RITCHIE etc. 954, 955 ; Human intestinal protozoa in New Guinea, BEARUP & LAWRENCE 75 ; Protozoal infections in African buffalo, MARSBOOM 750 ; Incidence of intestinal protozoa in Canadian dogs, CHOQUETTE & GELINAS 194 ; Pathogenic protozoa of birds, CASTELLARNAU 175.

Amoebiasis. — Parasitic *Entamoeba* spp., of man, HOARE 528 ; Amoebiasis (general), MATHIS 757, ROSENSTIEL 965 ; Latent amoebiasis, EVERARD 338, PUGH 905 ; Host-parasite relations in amoebiasis, DESCHIENS 287, MATHIS 757, REES

930 ; Epidemiology of amoebiasis, DUJARRIC DE LA RIVIERE 317 ; Individual differences in susceptibility to amoebiasis, PAULLEY 854 ; Nutrition of *E. histolytica*, DESCHIENS 286 ; Cultivation of human intestinal amoebae (review), PETTAZZI 865 ; Effect of bacterial flora on cultivation of *E. histolytica*, SAITO 993 ; Diagnostic value of culture methods in amoebiasis, SCARLINI 1004 ; Stain for identification of intestinal amoebae in wet preparations, VELAT etc. 1187 ; Method of *in vitro* testing of amoebicidal activity of chemicals, ANASTOPOULOS & BIRCH 23 ; Effect of antibiotics on *E. histolytica*, WATT & VANDERGRIFF 1209 ; Treatment of water for elimination of *E. histolytica* cysts, NEWTON 822 ; Destruction of *E. histolytica* cysts in water by heat, CHANG 181 ; Effect of intestinal flora on excystation of *E. histolytica*, ISHINO 570, 571, 572, 573 ; Survival of *E. histolytica* cysts in warm water, JONES & NEWTON 614 ; Amoebic (*sp. indet.*) infection of human urethra, LEONHARDT 687 ; Mathematical exposition of demonstrability of *E. histolytica* in surveys, LANCASTER 669 ; Differential diagnosis of amoebiasis in stools, HAMED 488 ; Complement fixation test for hepatic amoebiasis, HUSSEY & BROWN 563 ; Amoebiasis in Britain, ANON. 1, HOARE 526 ; Amoebiasis in Ancona, Italy, VIVOLI & MÜLLER 1190 ; Amoebiasis in S. Africa and differential diagnosis of human amoebae, ELSDON-DEW 331 ; Amoebiasis among Canadian war veterans, DICKSON & ROSS 294 ; Amoebiasis in U.S.A., WRIGHT 1258, TREUTING 1177 ; Amoebiasis in N.Y. State, Towse etc. 1172 ; Effect of war on amoebiasis in U.S.A., LINCICOME etc. 698, STILWELL 1109 ; Amoebiasis in Ecuador, LEÓN 686 ; *Entamoeba histolytica* in rats and their epidemiological role, HOARE 525 ; Experimental infection of rats with cysts of *E. histolytica*, McCOWEN & LAWLIS 722 ; Effect of antigen-treatment on *E. histolytica* infection of rats, SWARTZWELDER & MULLER 1129 ; Seasonal factors affecting *E. histolytica* infection in rats, YANAI 1263 ; Experimental amoebiasis in guineapigs, TAYLOR etc. 1139 ; Ex-

perimental infection of guineapig with *E. histolytica*, SOHIER & PELOUX 1081, MATHIS 756; Experimental amoebic hepatitis in cat, MORETTI & DESNUES 790; Attempts to infect murines with *E. coli*, and its differentiation from *E. muris*, NEAL 811; *E. moshkovskii* (indistinguishable from *E. histolytica*) in London sewage, NEAL 812; Possible confusion between *E. histolytica* and *E. moshkovskii*, LEAL & AMARAL 679; *Dientamoeba* infections in Uruguay, COSTA 236.

Leishmaniasis. — Relationships between *Leishmania* spp., MOHIUDDIN 782; Differentiation of *Leishmania* spp., KIRK 636; Criticism of sandfly transmission of Kala Azar, BOUCHÉ 125, MALONE 738; Diagnostic value of Row's culture for Kala Azar, PATKAR 853; Absence of *L. donovani* in milk and cerebrospinal fluid of Kala-azar patients and its presence in pleural fluid, CHUNG & FENG 197; Laboratory infection with *Leishmania donovani*, TERRY etc. 1141; Behaviour of *L. donovani* in ticks, FENG & LU 361; *L. donovani* in hamster and cotton rat, FULTON etc. 390; Skin lesions in dogs caused by *Leishmania*, HOEPLI & FENG 537; Canine leishmaniasis in France, GUILHON 476; Canine leishmaniasis in Brittany, GUILHON & LOGÉ 477; Canine leishmaniasis in Algeria and its diagnosis by formol-gel reaction, POUL 896; Human and canine kala-azar in China, Ho etc. 523, KOENIGSTEIN etc. 643; "Moist" and "dry" forms of cutaneous leishmaniasis in Persia, ANSARI & MOFIDI 29.

Trypanosomiasis. — Trypanosomiasis (general), HOARE & CORSON 532; Diagnosis of trypanosomiasis by culture, HENRARD & PEEL 506; Methods for study of trypanosomes, PINTO 882; Chagas' disease (general), PEDREIRA DE FREITAS 856; Immunological relations between strains of *T. cruzi* and agglutination test for Chagas' disease, HANSCHKA etc. 502; Cultivation of *T. cruzi* in tissue of rat sarcoma, MEYER & CHAGAS 774; Experimental infection of cancer patients with *T. cruzi* and its effect on the tumours, GALLIARD etc. 397;

Effect of *T. cruzi* on cancer in mice, LOB 703; Failure of *T. cruzi* to arrest cancer in mice, JEDELOO etc. 596, 597, HAUSCHKA 501; Effect of *T. cruzi* lysate on rat cancer, COUDERT & JUTTIN 237; Reservoir hosts of *T. cruzi* revealed by xenodiagnosis, FREITAS 384; Correlation between geographical distribution of Triatomid bugs and their infection with *T. cruzi*, JÖRG 608; Reaction of "conditioned haemolysis" in Chagas' disease, MUNIZ 805; Natural infection of armadillo with *T. cruzi* in Colombia, RENJIFO-SALCEDO & OSORNO-MESA 942; Experimental infection of S. American rodent (*Octodon*) with *T. cruzi*, CHRISTEN & NEGHME 196; Course of experimental infection of rabbit with *T. cruzi*, AGOSIN & BADINEZ 15; Triatomid bugs infected with *T. cruzi* in Brazil, PELLEGRINO 859; Natural infection of Triatomid bugs and dog in São Paulo, SILVA & FORATTINI 1062; Status of Chagas' disease in U.S.A., PACKCHANIEN 840; Triatomid bugs harbouring *T. cruzi* in California, WOOD 1256; Chagas' disease in Mexico, MAZZOTTI & DIAS 765; Chagas' disease in Argentina, MAZZA 763; First record of *T. rangeli* from man and dog in Argentina, BORZONE etc. 124; Probable occurrence of *T. rangeli* in Chile, TOBAR & THIERMANN 1167; Human infections with *T. rangeli* in Guatemala, LEON 684, 685; Trypanosomes and tsetse flies (general), HAARLØV 480; Trypanosomes in proboscis and salivary glands of *Glossina*, BURTT 162; Trypanosome infections in tsetse-flies, ROUBAUD 969; Trypanosome infections in *Glossina* of Portuguese East Africa, PIRES etc. 883; Transmission of trypanosomes of *brucei* group, FAIRBAIRN & CULWICK 342; Human and animal trypanosomes in Colombia, RENJIFO-SALCEDO etc. 941; Sleeping sickness (general), O'ROURKE 831; Sleeping sickness in Belgian Congo, RODHAIN 960; Conference on African trypanosomiasis, SOUSA 1083; Sternal puncture for diagnosis of Sleeping Sickness, CRUZ FERREIRA & LEHMANN DE ALMEIDA 251; Experimental infection of nervous system of monkeys with *T. rhodesiense*, STEWART 1108; Pathology and immunity in African bovine

trypanosomiasis, FIENNES 363; Cryptic bovine trypanosomiasis, FIENNES 364; Bovine trypanosomiasis in Belgian Congo, SCHOENAERS 1021; *T. brucei* in African elephant, DEVOCET 291; Behaviour of *T. brucei* in deer-mouse, PACKCHANTAN 839; *T. vivax* (general account of parasite and disease), CURASSON & MORNET 254; Experimental infection of Hyrax with *T. vivax*, SCHOENAERS 1022, 1023; Natural *T. congolense* infection in tsetse-flies of French Cameroons, ROUBAUD etc. 972; *T. simiae* infection in camels, PELLEGRINI 858; *T. simiae* in sheep, PELLEGRINI 857; *T. suis* [= *T. simiae*] in pigs, LHOVEROL & YOUSOUFF 696; Course of experimental infection with *T. evansi* in rodents, YUTUC & SHER 1267; Immunization against Surra, KRANEVELD & DJAE-NOEDIN 649; Diagnosis of bovine surra with stilbamidine, RAY 922.

Animal flagellosis. — *Gonyaulax* causing fatal disease of fish in Gulf of Mexico, CONNELL & CROSS 227; Intestinal flagellates of the fowl, McDOWELL 726; Blackhead in turkeys: transmission, host-parasite relations, culture, DESOWITZ 289; Transmission of turkey Blackhead (*Histomonas*) through eggs of nematode (*Heterakis*), SWALES 1127; Blood changes in *Histomonas* infection (Blackhead) of turkeys, McGUIRE & CAVETT 729; Giardiasis in man (general), BÖTTNER 116; Canine giardiasis, CHOQUETTE 193; Giardiasis of chinchilla, GOLDSBY 439; Experimental infection of mice with *Trichomonas* spp., SCHNITZER etc. 1020; Pathogenicity of *Trichomonas hominis*, HAMED 487; Course of *Trichomonas vaginalis* infection, PETER & JIROVEC 862; JIROVEC & PETER 606, 607; *Trichomonas vaginalis* in Algerian women, MANDOU & FLEURETTE 739; Incidence of *Trichomonas vaginalis* among Chilean prostitutes, CASTRO etc. 176; Vaginal trichomoniasis in cows and women, CARINI 168; Bovine *Trichomonas* infection, EUZÉBY 337; *Trichomonas foetus* in bulls, HAMMOND etc. 491.

Coccidiosis. — Exogenous development of *Isospora rivolta*, STOJANOVIĆ 1110; Human coccidiosis, CHESTERMAN 192; Human coccidiosis in

Belgian Congo, DEVIGNAT etc. 290; Human coccidiosis in Natal, with record of world incidence, ELSDON-DEW & FREEDMAN 332; Human *Isospora* infection in U.S.A., MARKELL 748; *Isospora belli* from man in Chile, NEGhme & SILVA 814; Incidence of *Eimeria* spp. in American calves, LUEDKE & MORGAN 713; Coccidiosis of domestic rabbit, LUND 714; Fowl coccidiosis due to *Eimeria acervulina*, MOYNIHAN 800; Effect of helminthic infection on coccidiosis of fowl, RIEDEL 948; Coccidiosis of turkey, HAWKINS 503; Coccidiosis of American quail, SNEED & JONES 1079.

Malaria. — Malaria (general), AZMY PASHA 44; Malaria parasites (general), HOARE 527; Structure and development of malaria parasites, APARICIO GARRIDO 31; Life-cycle of malaria parasites, HUFF 556, WENZEL 1224, WESTPHAL 1226; Host's liver as site of development of malaria parasites, GARNHAM 409, 410; Exoerythrocytic development of *Plasmodium*, MUDROW - REICHENOW 802, 803; Criticism of exoerythrocytic development of malaria parasites, HUFF 557; Principles of malariology, SERGENT 1038, 1039; Malariological indices, PARROT & CATANEI 851, 852; Host-parasite relations in malaria, SWELLENGREBEL 1130; Congenital malaria, JONES 613, ANON. 2, COVELL 241; Preparation and staining of blood films for malaria diagnosis, JASWANT SINGH 592; Combined thick and thin films for diagnosis of malaria parasites, SHUTE 1054; Identification of malaria parasites in thick blood films, LEIBOVITZ 683; Prevention of transfer of malaria parasites between blood films, BROOKE & DONALDSON 146; New staining method for demonstration of *Plasmodium* in blood, CHATTERJEE 184; Serodiagnosis of malaria, BENITEZ CALVO 92; Dissection of mosquitoes for detection of malaria parasites and its application in malariology, HODGKIN 534; Exoerythrocytic development of human malaria parasites, SHORTT 1051; Premunition in human malaria, SERGENT & PARROT 1040; Immunity to malaria in African infants, GARNHAM 405; Hyperende-

mic malaria, WILSON etc. 1243 ; Malaria parasite rates in infants, MACDONALD 724 ; Complement fixation test for human malaria with *P. knowlesi* antigen, SUTCLIFF etc. 1125 ; Induced malaria produced by *P. vivax* preserved by freezing, SAUNDERS etc. 997 ; Sporozoite-induced *vivax* malaria, COATNEY etc. 213, 215 ; Simultaneous infection with two strains of *P. vivax*, COOPER etc. 229 ; Statistical analysis of the effectiveness of malaria diagnosis from blood films and the course of schizogony in *P. vivax*, HEINKEL 504 ; Discovery of pre-erythrocytic stages in *P. falciparum*, PLOYÉ 890 ; Life-cycle of *P. falciparum* in *Anopheles*, SHUTE 1055 ; Congenital infection with *P. falciparum*, SICÉ & BINDER 1058 ; Vectors of *falciparum* malaria, WANSON etc. 1207 ; Susceptibility of Anophelines to *P. falciparum*, JEFFERY etc. 598 ; Malaria in Europe, PAMPANA 842 ; Malaria in Holland, SWELLENGREBEL 1133 ; Malaria in Spanish army and its parasitological diagnosis, PICASO GUILLEN 871 ; Anopheline vectors of malaria in Bulgaria, DRENSKI 312 ; Incidence and treatment of malaria in West Africa, BRUCE-CHWATT & BRUCE-CHWATT 154 ; Malaria in Belgian Congo, GEUKENS 426 ; Malaria mortality and morbidity in U.S.A., FAUST etc. 358 ; Malaria incidence in Georgia, U.S.A., GOODWIN 447 ; Susceptibility of *Anopheles aztecus* to Mexican strains of malaria parasites, SANDOVAL etc. 995 ; Malaria incidence in Brazil based on results of viscerotomy, PARÁ 844 ; Natural infection of Colombian *Anopheles* with *Plasmodium*, REY & RENJIFO 945 ; Malaria in Australia and its Pacific territories, FORD 378 ; Anopheline mosquitoes of Formosa infected with malaria parasites, CHOW etc. 195 ; Malaria in Arakan region, MACAN 720 ; Malaria in New Guinea, BERN & HANSEN 99 ; Relapses in infections with *P. malariae* and *P. cynomolgi*, CORRADETTI & VEROLINI 234 ; Transmission and course of infection of *P. knowlesi* in monkeys, JASWANT SINGH etc. 595 ; Life-cycle of *P. cynomolgi*, SHORTT 1052 ; Behaviour of *P. berghei* in rodents, ADLER etc. 14 ; Susceptibility of hamster to *P.*

berghei and failure to infect man and monkey with this parasite, DURAND & MATHIS 318 ; Histopathology of *P. berghei* infection in mouse, LEVADITI & VAISMAN 689 ; Latent infection and premunition in avian malaras, SERGENT & SERGENT 1042, 1043 ; Infection of Anophelines with avian *Plasmodium*, HUNNINEN etc. 561 ; Course of infection of different strains of *P. gallinaceum*, GREENBERG etc. 460 ; Effect of *P. gallinaceum* on chicks, SRINIVASAN etc. 1095 ; Immunity in fowl malaria, TALIAFERRO & TALIAFERRO 1136 ; Complement fixation in fowl malaria, DIEZ MELCHOR & APARICIO GARRIDO 297 ; Exudative pericarditis of fowl due to *Plasmodium* infection, PICK 873 ; Mortality in ducks infected with *P. lophurae*, BECKER 77 ; *Haemoproteus* infections of birds, ORTEGA & BERENGUER 832.

Piroplasmosis. — Premunition in bovine piroplasmosis, SERGENT & PARROT 1040 ; Bovine piroplasmoses in Rumania, METIANU 772 ; Tick-vectors of bovine piroplasmosis in Réunion, GILLARD 428 ; *Babesia rodhaini* sp. n. from African wild rat, infective to laboratory mice, BERGEHE etc. 95 ; *Babesia* in Indian cat, MUDALIAR etc. 801 ; Hereditary transmission of *Theileria* in tick, RAY 923 ; Immunity in East Coast fever, WILSON 1246 ; Factors affecting course of East Coast fever in calves, WILSON 1245 ; *Theileria mutans* and *Anaplasma* in American cattle, SPLITTER 1088 ; East Coast fever in bovines of Belgian Congo, SCHOENAERS 1021 ; *Nuttallia* in African elephant, DEVOCHE 291 ; First case of equine nuttalliosis in Madagascar, BUCK & RAMAMBAZAFY 156 ; *Aegyptiannella* in ostriches, RECEVEUR & THOMÉ 927 ; Bovine *Anaplasma* in Rumania, METIANU 771 ; Transmission of anaplasmosis, DIKMANS 298 ; *Leucocytozoon* infection in ducks, FALLIS etc. 345, CHERNIN 191.

Other Sporozoa. — Method for detecting Myxosporidial infections, MEGLITSCH 766 ; Myxosporidiosis (*Chloromyxum*) of fish, WILLIS 1242 ; Sarcosporidiosis in Canadian pigs, MUSFELDT 808 ; Bovine sarcosporidiosis, WANG 1206.

Ciliates.—Ciliate [?] from human lung producing asthmatic attacks, AKRAM & SUBBA 18; Balantidiosis, DIEZ MELCHOR 296; Transmission of *Balantidium coli*, YOUNG 1266; Balantidiosis in U.S.A., SWARTZWELDER 1128; Ciliates parasitic on gills of fish, REICHENBACH-KLINKE 937; Ciliates in rumen of American cattle, UZZELL etc. 1182; Folliculinids fouling oysters in Chesapeake Bay, ANDREWS 26.

Toxoplasmosis. — Toxoplasmosis (general), BERGOUIGNAN 96, SANGIORGI 996, WESTPHAL 1226; Structure and development of *Toxoplasma*, WESTPHAL 1227; Nature of pseudocysts in *Toxoplasma*, RODHAIN 962; *Toxoplasma* in human blood, SULKIN etc. 1121; Toxin (toxotoxin) produced by *Toxoplasma*, WEINMAN & KLATCHKO 1211; Diagnosis of toxoplasmosis with the dye-test, WESTPHAL & MÜHLFORDT 1231; Dye-test in toxoplasmosis, WESTPHAL & KNÜTTGEN 1230; Modified dye-test for toxoplasmosis, WINSSER & MAKSTENIEKS 1248, 1249; Human and animal toxoplasmosis (general), PIEKARSKI 877; Parasitology and serology of toxoplasmosis, PIEKARSKI 876; *Toxoplasma pyrogenes*: first record of toxoplasmosis in man, CASTELLANI 174; Toxoplasmosis as a congenital disease, ANON. 7; Foetal death in toxoplasmosis, WESTPHAL & SCHULZ 1232; Toxoplasmosis in children, WALLENZ & WESTPHAL 1200; Fatal toxoplasmosis in infants, PIEKARSKI & TÖRNE 878; Toxoplasmosis in England, MACDONALD 723; Toxoplasmosis in Germany, WESTPHAL 1228; Toxoplasmosis in Switzerland, ROTH & FRITZ 967; Canine toxoplasmosis, LANGHAM & SHOLL 670, FANKHAUSER 347; Dog as source of human infection with *Toxoplasma*, WESTPHAL & FINK 1229; *Toxoplasma* in English dog, BONSER 123; Toxoplasmosis of dog in Panama zone, GROCOTT 470; Toxoplasmosis in laboratory mice, MOOSER 787; Congenital toxoplasmosis in mice, COWEN & WOLF 242, 243, 244; Toxoplasmosis of rabbits and pigeons, WIKTOR 1239; Toxoplasmosis in domestic animals of Australia, WICKHAM & CARNE 1238; *Toxoplasma* in the blood of experi-

mentally infected animals, JACOBS & JONES 582; Transmission of toxoplasmosis, JACOBS etc. 583; Transmission of *Toxoplasma* by blood, LAVEN & WESTPHAL 677; Transmission of toxoplasmosis by biting arthropods, BLANC etc. 115.

Chemotherapy and Prophylaxis.

Treatise on chemotherapy, FINDLAY 367; Treatment of protozoal diseases, MOST 796; Effect of antibiotics on human intestinal protozoa, FELSENFELD etc. 360; Effect of prodigiosin on parasitic protozoa, FELSENFELD etc. 359; Relation of chemical constitution to amoebicidal action of drugs, FULTON etc. 391; Treatment of amoebiasis, STEENIS 1106; Effect of drugs on *Entamoeba histolytica*, SCHNEIDER & MONTÉZIN 1017; *In vitro* effect of chemicals on *Entamoeba histolytica*, ANASTOPOULOS & BIRCH 23; Effect of new Bi-As compound on amoebiasis, EL DIN NOR EL DIN 323; Effect of antibiotics on *Entamoeba histolytica*, ANDERSON & ANDERSON 24, BRADIN & HANSEN 128, JONES 616, MOST etc. 797; Effect of antibiotics and other drugs on *Entamoeba histolytica*, THOMPSON etc. 1164; Effect of antibiotics on amoebiasis in monkeys, ANDERSON & ANDERSON 24; Effect of terramycin on *Entamoeba histolytica*, GUTIÉRREZ BALLESTEROS & TREVIÑO VILLASEÑOR 478, MOST & VAN ASSENDELFT 798; Treatment of experimental amoebiasis in rabbit, LUTTERMOSER etc. 717; Effect of drugs on *Histomonas*, SAUTTER etc. 1000, SAUTTER & POMEROY 998; Testing drugs against *Histomonas*, SAUTTER etc. 999; Evaluation of results of treatment of experimental leishmaniasis, GERMUTH etc. 424; Effect of antimony compound on *Leishmania*, ANSARI etc. 30; Effect of antimonial on *Leishmania donovani*, GERMUTH etc. 423; Effect of antrycide on trypanosomes, CURD & DAVEY 255, ROUBAUD & BOURDIÉ 971, DAVEY 270; Effect of guinaldine derivatives on trypanosomes, GOBLE 434; Testing drugs in experimental Chagas' disease, GOBLE 433; Ineffectiveness of antibiotics in Chagas' disease, JARPA etc. 588 Effect of phenanthridine compounds on *Trypanosoma cruzi*, GOODWIN etc. 444.

445 ; Effect of pentaquine, quinine and chloroquine on Chagas' disease, JARPA etc. **590** ; Ineffectiveness of a thiosemicarbazide derivative against Chagas' disease, JARPA etc. **589** ; Use of stilbamidine for diagnosis of bovine surra, RAY **922** ; Effect of naganol on *Trypanosoma evansi*, CARRERA **164** ; Inhibition of acriflavine-fastness in *Trypanosoma equiperdum*, SCHNITZER & KELLY **1019** ; Prophylactic action upon *Trypanosoma gambiense* of pentamidine, LAUNOY **676** ; Spontaneous As-resistance in *Trypanosoma brucei*, KROO & RODRÍGUEZ-PÉREZ **652** ; Effect of antrycide and dimidium on *Trypanosoma congolense* and *T. vivax*, GOODWIN & WALLS **446** ; Effect of phenanthridine compounds on *Trypanosoma congolense* and *T. rhodesiense*, BROWNLEE etc. **153** ; Effect of "viacutan" on *Trichomonas vaginalis*, SLUMING **1075** ; Effect of drugs on bovine *Trichomonas*, PIERCE & MORGAN **880** ; Treatment of animal coccidiosis, SPREHN **1092** ; Effect of drugs on fowl *Eimeria*, PETERSON & HYMAS **863** ; Effect of sulphaguanidine on fowl *Eimeria*, BANKOWSKI **59** ; Treatment of fowl coccidiosis with nitrofurazone, HARWOOD & STUNZ **499** ; Effect of nitrofurazone on turkey coccidiosis, MOORE & BROWN **785** ; Development of antimalarial drugs, KIKUTH **626** ; Action of antimalarial drugs, JASWANT SINGH **591** ; Effect of paludrine on malaria parasites, CIUCA etc. **202** ; Paludrine-resistance of malaria parasites, REDMOND **929** ; Effect of febrifugine on *vivax* malaria, COATNEY etc. **211** ; Effect of paludrine in *Plasmodium vivax*, GIOVANARDI etc. **430** ; Effect of chlorguanide on *Plasmodium vivax*, COOPER etc. **231** ; Effect of chlorguanide and chloroquine on *vivax* malaria, LINTS etc. **699** ; Effect of camoquin on *vivax* malaria, COATNEY etc. **214** ; Resistance to chlorguanide in *Plasmodium vivax*, COOPER etc. **230** ; Effect of pentaquine on *vivax* malaria, COATNEY etc. **212** ; Effect of antibiotics on *Plasmodium vivax*, IMBODEN etc. **568** ; Effect of some antimalarials on Quartan malaria, McLENDON & YOUNG **732** ; Effect of phenylhydrazine on monkey malaria, RIGDON etc. **950** ; Use of

Plasmodium berghei for tests of antimalarial drugs, SCHNEIDER & MONTEZIN **1016** ; Effect of drugs on *Plasmodium berghei*, HILL **514** ; Effect of proguanil on *Plasmodium berghei*, THURSTON **1165** ; Effect of aureomycin on *Plasmodium berghei*, LEVADITI & VAISMAN **690** ; Effect of atebrin and resochin on avian *Plasmodium*, DRUCKER **313** ; Effect of drugs on fowl *Plasmodium*, BISHOP & BIRKETT **109**, GREENBERG etc. **459** ; Effect of diaminopyrimidines on fowl *Plasmodium*, GREENBERG & RICHESON **457** ; Effect of pterins on fowl *Plasmodium*, GREENBERG **456** ; Effect of chlorguanide on fowl *Plasmodium*, GREENBERG **455** ; Effect of aureomycin on *Plasmodium gallinaceum*, RAMASWAMY etc. **911** ; Effect of pantothenic acid on fowl *Plasmodium*, SCHINAZI etc. **1008** ; Effect of chloroquine of fowl *Plasmodium*, SICCA **1057** ; Paludrine-resistance of fowl *Plasmodium*, BISHOP & McCONNACHIE **110** ; Resistance of bird *Plasmodium* to chlorguanide, GRANT **452** ; Quinine-resistance in fowl *Plasmodium*, KNOPPERS **641** ; Cross-resistance to drugs in fowl *Plasmodium*, BISHOP & McCONNACHIE **112** ; Sulphadiazine-resistance in fowl *Plasmodium*, BISHOP & McCONNACHIE **111** ; Combined effect of drugs on *Plasmodium lophurae*, REILLY etc. **939** ; Effect of pamaquin on *Theileria*, NEITZ **815** ; Effect of drugs on toxoplasmosis, THIEL **1158** ; Treatment of toxoplasmosis with aureomycin, WESTPHAL **1228** ; Free-living ciliates for drug-testing, JAMES **585** ; Use of *Glaucoma* for drug tests, JIROVEC **605** ; Effect of aureomycin on *Balantidium coli*, AGOSIN etc. **16** ; Effect of terramycin on *Balantidium coli*, AGOSIN etc. **17**.

DISTRIBUTION

(a) GEOGRAPHICAL

General.—Biogeographical distribution of freshwater protozoa from the works of H. Gauthier, BREHM **136** ; Distribution of marine protozoa, HAGMEIER & KÜNE **482** ; Geographical distribution of coccoliths, BERNARD **100** ; Geographical distribution of human coccidiosis, ELSDON-DEW & FREEDMAN **332**.

Expeditions.—Pleistocene and Pliocene foraminifera collected on 1940 E.W. Scripps cruise to the Gulf of California, NATLAND 810; Foraminifera collected by the B.A.N.Z. Antarctic Research Expedition 1929–1931, PARR 850; Listed foraminifera from Globigerina Ooze, F.I.S. "Endeavour" 1909–10, CHAPMAN 183; ; Lagenidae of the Allan Hancock Pacific Expedition, CUSHMAN & McCULLOCH 261; *Ramulina globulifera*, Pliocene, California collected by 1940 E. W. Scripps cruise to Gulf of California, CUSHMAN 260.

1. Land and Freshwater.—**Palae-arctic Region.**—*Europe.*—Mastigophora from estuaries and river mouths, north-west Europe, VORSTMAN 1198; Ciliates attached to isopods, Europe, MATTHES 759; Two new chrysophycean flagellates, England, JANE 586; Protozoa of a Dutch pond, MIDDELHOEK 775; *Trachelomonas* in Holland, MIDDELHOEK 776; Protozoa in industrially defiled river water, Sweden, SÖRENSEN 1080; Protozoa in the lakes of Caldonazzo and Levico, Italy, MARCHESONI 744; Cave-dwelling protozoa of Tuscany, LANZA 671; Phyto-mastigina communities in fresh waters of Spain [with other organisms], MARGALEF 745; *Nebela silesiaca* on mountains of Upper Silesia, PAX 855; Ciliata inhabiting surface of *Cordylophora*, brackish water, Germany, CASPERS 173; Peritrich fauna from neighbourhood of Erlangen, Germany, MATTHES 760; Peritricha from beetles and bugs, Germany, LUST 716; Protozoa of the waters near Lunz, Austria, BREHM 135; Protozoa in Swiss lake, GEIGY & GROBE 415; Moss-dwelling Rhizopoda of Switzerland, BARTOS 70; Rhizopods from mosses in Carpathians, BARTOS 69; Protozoa in surface waters, Czechoslovakia, HANUŠKA 493; Listed protozoa from lake Emire, Turkey, GELDIAI 418; Freshwater and marine Dinoflagellata of Russia, KISELEV 637; Undetermined Suctorina in caves of Transcaucasia, BRISHTEN 108; New genus of Foraminifera from salt lake of Kazakhstan, Soviet Union, ŠMALGAUZEN 1076.

Oriental Region.—Listed parasitic protozoa in Thailand, SUVATTI 1126;

Australian Region and Polynesia.—New freshwater ciliates from New Zealand, BARY 72; Freshwater ciliates from the neighbourhood of Wellington, New Zealand, BARY 71.

Nearctic Region.—*North America.*—Listed planktonic protozoa from freshwater, Rocky Mountains, BRINLEY 139; Planktonic protozoa in Crab Orchard Lake, Illinois, DORRIS 306; Protozoa in ponds and ditches of northern Florida, DICKINSON 293; Listed protozoa of Iowa, SHAWHAN etc. 1047; *Pelomyxa illinoisensis* sp. n. from pond, Illinois, U.S.A., KUDO 657; *Paraperanema longicauda* gen. et. sp. n., from pond, Iowa, U.S.A., SHAWHAN & JAHN 1046; Symbiotic *Blepharisma* from lake in Iowa, U.S.A., JOHNSON 611; *Folliculina boltoni* from lake in Iowa, U.S.A., HAMILTON 490.

South America.—*Brachiomonas* along coast of central Chile, YAÑEZ 1264.

2. Marine.—Marine Dinoflagellata of Russia, KISELEV 637.

Arctic.—Planktonic protozoa of the seas around Iceland, HENTSCHEL 509.

North Temperate.—Plankton protozoa in Valencia Harbour, Ireland, DELAP & DELAP 284; Nannoplankton from the coastal waters of Denmark, N.W. Germany and Friesland, AURICH 43; Planktonic protozoa of the Baltic, ROTHE 968; Protozoa in plankton of west coast of Florida, KING 630; Protozoa in plankton from waters of Florida, DAVIS 274; Foraminifera from Larne Lough, Ireland, GOUGH 448; Foraminifera from north-west African Atlantic coast, GOMEZ DE LLARENA 440; Foraminifera from north-west African Atlantic coast, COLOM 224; Listed foraminifera from Gulf of Mexico, BEHRE 85; Distribution of foraminifera in marsh and bay, Barnstable, Massachusetts, U.S.A., PHLEGER & WALTON 870; Mechanical distribution of recent foraminifera in Bahama Banks sediments, ILLING 566; Dinoflagellates in sub-tropical inshore waters, Miami, SMITH

etc. 1077; Tintinnids from the Bay of Cascais, Portugal, SOUSA E SILVA 1084; New Tintinnoid from Peter the Great Bay, Russia, STRELKOV & VIRKETIS 1114; Folliculinids fouling oysters in Chesapeake Bay, ANDREWS 26; Tintinnids in subtropical inshore waters, Miami, SMITH etc. 1077; Tintinnids from the sea of Alboran, Mediterranean, MASSUTI & NAVARRO 753; Tintinnids from the waters of Monaco, RAMPI 913; Planktonic protozoa off Algeria, KRUGER 654; Depth distribution of planktonic protozoa in Algiers neighbourhood, BERNARD 101; Report of plankton collected in surface waters of Mediterranean, ANON. 9; Planktonic protozoa in the Black Sea, DOLGOPOLSKAYA 304; Dinoflagellates of the Black Sea, STROIKINA 1116; Lagenidae of the Pacific Ocean, CUSHMAN & McCULLOCH 261; Abyssal Protozoa in the Okhotsk Sea, UŠAKOV 1180; Death assemblages of foraminifera at mouth of Toyama Bay, Japan, ISHIWADA 574.

Tropical. — Foraminifera from the northern Red Sea, SAID 990, 991; South-equatorial Peridiniidae from the Pacific, RAMPI 914; Recorded protozoa from Madras beach, GRAVELY 454; Radiolaria and Mastigophora from the waters around Kousadai Island, Indian Ocean, CHACKO 178; Distribution of *Oxyrrhis marina*, California Bay, TAFALL 1134.

South Temperate and Subantarctic. — South temperate and sub-antarctic foraminifera, PARR 850; Listed Recent and Pleistocene foraminifera, Western Australia, PARR 849; Listed foraminifera from Globigerina Ooze at 42° 17' S., 148° 51' E., CHAPMAN 183; Folliculinids from Australia, ANDREWS 27; *Cyclotrichium meuneri* causing red water, Wellington Harbour, New Zealand, BARY & STUCKEY 73.

Antarctic. — Antarctic foraminifera, PARR 850.

(b) GEOLOGICAL.

General: Various problems of German micropalaeontology, WETZEL 1233; Outline of German micropalaeontology with bibliography,

STAESCHE 1101; Foraminiferal evidence for Plio-Pleistocene boundary, THALMANN 1147; Stratigraphical and palaeo-ecological problems in the use of foraminifera in petroleum geology, THALMANN 1146; Abnormal development in Recent and fossil Orbitolitids, ABRARD 12; Direction of coiling in Globorotaliidae with appendix on subsp. of *G. fohsi*, BOLLI 117; Foraminifera as rock builders, BERMUDEZ 97; Range chart as aid in foraminiferal correlation in stratigraphy, BURSCH 161; Monograph on the Valvulinidae, CUSHMAN 257; Recorded foraminifera in the Prealps, Switzerland, CHENEVART 189; Foraminifera from borings in Spain, CARRESCO & LIZÁUR Y ROLDÁN 171; Rates of evolution in perforate foraminifera, SLOSS 1074; Stratigraphical range of families in foraminifera, THALMANN 1155; Vertical distribution of *Globotruncana*, THALMANN 1154; Larger foraminiferal populations, THALMANN 1153; Significance of plankton foraminifera as indices of geological age, STAINFORTH 1103; Foraminifera from the Eocene and Cretaceous and the taxonomic position of *Bradya tergestina*, SILVESTRI 1064; Note on *Chapmania* and its distribution, SILVESTRI 1063; Stratigraphic value of foraminifera and radiolaria in petroleum exploration, MILNER 778; Foraminifera enclosed in oolite grains, SCHRODE 1027; Method of determining physical characters of fossil environments by variability of a thanatocoenosis in foraminifera, EMILIANI 333; Use of American Catalogue of Foraminifera to micropalaeontologists, ELLIS 329; Dinoflagellates with mineralized thecae, DEFLANDRE 277; Fossil Tintinnidae, MELÉNDEZ 769; Foraminifera from well-borings in Bavaria, FÖRSTER & OEHLEKE 377; Foraminifera used in the stratigraphy of Austria, FORRER 379; Foraminifera in the chalk deposits of Tchussovsk and Litvensk, Urals, MALACHOVA 733; Foraminifera used in determination of Plio-Pleistocene boundary, PANNEKOEK & VOORTHUYSEN 843; Recorded foraminifera from Greece, certain Mediterranean islands and Asia Minor, RENZ & REICHEL 944; Foraminifera used in the

determination of the Plio-Pleistocene boundary, Northern Italy, RUGGIERI & SELLI 977; The Foraminifera of Italy in relation to the Plio-Pleistocene boundary, COGGI & ALLIATA 216; Foraminifera used in the correlation between Plio-Pleistocene of East Anglia and the Netherlands, VLERK 1191; Plio-Pleistocene boundary in the Netherlands based on ecology of foraminifera, VOORTHUYSEN 1194; Quantitative distribution of Plio-Pleistocene foraminifera in boring, Holland, VOORTHUYSEN 1195; Pleistocene, Pliocene and Miocene foraminifera from Holland, VOORTHUYSEN 1196; Cretaceous and Tertiary foraminifera in reef formations, HENSON 508; Foraminifera in connection with stratigraphy of the Indo-Afghan border, DAVIES 271; Listed foraminifera used in geological interpretation of Louisiana, U.S.A., MURRAY 807; Recorded foraminifera from Asia Minor, Greece and eastern Mediterranean islands, RENZ & REICHEL 944; Stratigraphical value of foraminifera in New Zealand, OVEY 835.

Primary: Palaeozoic *Ptychocladia* and related foraminifera, ELIAS 325; Insufficiently described Palaeozoic foraminifera, SILVESTRI 1066; Fusulinids from Russian Donetz Carboniferous, NOVIK 826; Recorded Carboniferous foraminifera from Italy, SILVESTRI 1065; New subfamily of foraminifera in the Lower Permian, Russia, ROZOVSKAJA 973; Foraminifera from the Carboniferous, Gorki district, Russia, SEMICHATOVA 1035; Foraminifera in the Palaeozoic of Preazovye and Maykopsk, Russia, CHANIN 182; Foraminifera used in European Carboniferous stratigraphy, BARKENSTEIN 66; *Rhenothyra* gen. n. from the Middle Devonian, Germany, BECKMANN 83; Foraminifera in Lower Permian, Apsheronsk Peninsula, Russia, VISTELIUS & MIKLUCHO-MAKLAJ 1189; Foraminifera from the Carboniferous, S. Urals, MALACHOVA 734; Carboniferous *Pseudofusulina* spp. of Artinskian stage, U.S.S.R., MAXIMOVA 761; Fusulinids of the Permian and Carboniferous of China, YAO 1265; Carboniferous and Permian foraminifera from Iran, DOUGLAS 308; Algal-foraminiferal

consortium, Permian, Texas, JOHNSON 610; New Cambrian foraminifera from Argentina, RUSCONI 982; Foraminifera in the Carboniferous stratigraphy of Texas, PLUMMER 892; Stratigraphical significance of Mississippian endothyroid foraminifera, ZELLER 1268; Permian fusulinids from British Columbia, THOMPSON & VERVILLE 1161; Pennsylvanian fusulinids from Utah, THOMPSON etc. 1162; Middle and Upper Permian fusulinids, Washington and British Columbia, THOMPSON etc. 1163; ?Triassic to Recent and Pleistocene foraminifera, Florida, COLE 220; Foraminifera in Australian stratigraphy, CRESPIAN 249; Permian fusulinids of Timor, GERTH 425; Late Palaeozoic radiolaria, Japan, ICHIKAWA 565; *Everbeckina*, *Nankinella* and *Sphaerulina* in Permian of Japan, HANZAWA 495; Fusulinids in the Palaeozoic of Shikoku, Japan, KOPAYASHI, HUZITA & KIMURA 642; Fusulinids from the Palaeozoic, Japan, OZAWA 838.

Secondary: New litiolid genus from the Cretaceous and emendation of *Cribrostomoides*, FRIZZELL & SCHWARTZ 386; Inception and migration of some fusulinid genera, ELIAS 324; Cretaceous Silicoflagellidae, DEFLEANDRE 283; *Siderolites olaztiensis* newly described, RUIZ DE GAONA 978; Polyphyletism and parallel evolution in *Globotruncana*, SIGAL 1059; Regional and stratigraphical distribution of *Rzehakina*, THALMANN 1150; The foraminifera in the Cretaceous of Austria, GRILL 468; The use of Upper Cretaceous foraminifera in North Pyrenees, GUBLER 473; Cretaceous foraminifera from Italy, GANDOLFI 403; Cretaceous, Paleocene and Eocene in flysch of Bavaria, HAGEN 483; The use of foraminifera in the Upper Cretaceous of Northwest Germany, HILTERMANN 516; Cretaceous foraminifera [*Globotruncana*] of Western Carpathians, KSIAZKIEWICZ 655; Listed foraminifera from the Cretaceous, Carpathians, JEKELINS 599; Lower Cretaceous foraminifera, Central Poland, LISZKA 701; New foraminifera from the Gault, England, KHAN 621; The evolution of foraminifera in the passage beds of the

Cretaceous and Tertiary, MARIE 746 ; Globorotalids from Upper Cretaceous, Switzerland, MORNOD 791 ; *Rotalipora apenninica* in the Prealps of Switzerland, Cretaceous, MORNOD 792 ; Upper Cretaceous foraminifera, Silesia, RŮŽIČKA & BENEŠ 985 ; Record of *Orbitopsella praecursor* (Gümbel) from Central Appenines, PARONA 848 ; *Globorotalia* and *Globigerina* in Cretaceous, India, SINGH 1070 ; Foraminifera in suggested Cretaceous rocks, Savoy, France, RAQUIN 908 ; *Orbitolina* in the Bartonian (Eocene), France, RAMIÈRE DE FORTANIER 912 ; *Hellenocyclus beotica* gen. et sp. n., Upper Cretaceous, Greece, REICHEL 934 ; †*Globotruncana* and subspecies in the Cretaceous of Switzerland, REICHEL 935 ; Recorded foraminifera in the Cretaceous of Greece, RENZ 943 ; Recorded foraminifera from Lias, French Pre-Alps, SCHUMACHER & SCHIEFERDECKER 1028 ; *Spirillinæ* in the Lias of Switzerland, SCHWEIGHAUSER 1030 ; Foraminifera from the Lower Jurassic, Northern Caucasus, Russia, STERLIN 1107 ; Penetration of *Orbitolina* in Paris basin, Cretaceous, WELSCH 1221 ; Recorded foraminifera and presence of radiolaria in the Mesozoic of Austria, TRAUTH 1176 ; Sequanian foraminifera in Haute-Savoie, France, CAROZZI 170 ; Recorded and listed foraminifera from the Cretaceous, Prealps, Switzerland, CHATTON 186 ; Cretaceous foraminifera from Italy, CITA 200 ; Upper Liassic foraminifera, Northamptonshire, England, BARNARD 62 ; Foraminifera from the Lower Lias, Dorset, BARNARD 63 ; The uses of foraminifera in Lower Jurassic stratigraphy, BARNARD 64 ; *Tribrachia* in German Cretaceous, BARTENSTEIN & BRAND 68 ; Tertiary foraminifera from Germany, WICK 1237 ; Hystrichosphæroids from the Jurassic, France, VALENSI 1183 ; Radiolaria from the Jurassic or Lower Cretaceous of Oman, DAVIS 273 ; *Globotruncana* in the Cretaceous of India, JACOB & SASTRY 579 ; *Planularia planotrochiformis* sp. n., Cretaceous, U.S.A., HUSSEY & McNULTY 564 ; Jurassic foraminifera, Montana, U.S.A., LALLICKER 666 ; North America Jurassic foraminifera, LOEBLICH & TAPPAN

705 ; North American Jurassic foraminifera, LOEBLICH & TAPPAN 706 ; Foraminifera from type Kiowa Shale, Lower Cretaceous, Kansas, LOEBLICH & TAPPAN 707 ; *Choffatella* in the Lower Cretaceous of the Caribbean Region, MAYNE 762 ; Listed Cretaceous foraminifera from Texas, MORRISON 793 ; Larger foraminifera, Maestrichtian Eocene of Venezuela, CIZANCOURT 204 ; Cretaceous and Eocene foraminifera from Florida, COLE 219 ; Miocene, Eocene and Cretaceous foraminifera from well, Maryland, U.S.A., CUSHMAN 258 ; Cretaceous, Eocene and Miocene foraminifera from well, Maryland, U.S.A., CUSHMAN 258 ; Listed Cretaceous foraminifera from well-boring, Maryland, U.S.A., CUSHMAN 259 ; New Lower Cretaceous foraminifera, Texas, APPLIN, LOEBLICH & TAPPAN 33 ; Cretaceous foraminifera of the Tampico Embayment, Mexico, WICHER 1235 ; Danu-Montian foraminifera from Algeria, DAM & SIGAL 265 ; *Globotruncana stuarti* in the Cretaceous, Tripolitana, LIPPARINI 700 ; New foraminifera from the Esna Shales (Paleocene) and Upper Cretaceous, Egypt, NAKKADY 809 ; Cretaceous foraminifera in Algeria, DUBOURDIEU & SIGAL 316 ; *Dunbarula mathieui* sp. n., Permian, Tunisia, CIRY 198 ; Palaeozoic foraminifera from Morocco, TERMIER 1140 ; Permian foraminifera from New Guinea, GLAESSNER, LLEWELLYN & STANLEY 432 ; Radiolaria of the Early Jurassic (and earlier), Japan, ICHIKAWA 565 ; Cretaceous foraminifera from Hokkaido, ASANO 40 ; Upper Cretaceous foraminifera from Japan, ASANO 38.

Tertiary : Tertiary Silico-flagellidae, DEFLANDRE 283 ; New genera of siliceous flagellates from the Tertiary, DEFLANDRE 281 ; Skeleton of *Ebria* and relationship with Ammodochiidae, Tertiary, DEFLANDRE 280 ; Evolution of the ebriidians, DEFLANDRE 279 ; Notes on types of *Lepidocyclina mantelli* and *Nummulites floridanus*, VAUGHAN 1186 ; †*Hanikenina* in Trinidad and Barbados, B.W.I., BRONNIMANN 141 ; Regional and stratigraphical distribution of *Rzehakina*, THALMANN 1150 ; *Nummulites gizehensis* as a possible indicator of

Eocene climate, SAID 992; *Eponides abatisae* var. *greigi* nom. n. Oligocene, PETTERS & GANDOLFI 867; Eocene orthophragmins, RUIZ DE GAONA 980; Larger foraminifera used in paleogeography of Tertiary, North Japan, MANZAWA 496; Tertiary foraminifera from Roumania, FRANZENAU 382; Recorded foraminifera from the Miocene, Hungary, FRANZENAU 383; Listed foraminifera in the Tertiary palaeogeography of the Mediterranean area, FURON 392; Foraminifera of sub-Alpine flysch, Switzerland, FURRER 394; Applied statistical study of *Eponides umbonata* var. *stellata* from the Oligocene, Italy, EMILIANI 334; Listed foraminifera from Eocene, London, DAVIS 272; Recorded foraminifera in the Bartonian, France, GRANGEON & FEUGNEUR 451; Foraminifera in the Tertiary and flysch zone of Austria, GRILL 468; Recorded foraminifera from the Miocene, Austria, GRILL 467; Tertiary foraminifera from Dagestan, Russia, GROSSGEIM 472; Listed Neogene foraminifera from Spain, FALLOT etc. 346; Listed foraminifera from the Calabrian of Modena, GALLITELLI 401; Eocene, Paleocene and Cretaceous foraminifera in flysch of Bavaria, HAGN 483; Listed foraminifera from the Eocene, Austria, HERMADEN 510; Foraminifera from the Eocene clays, north Caucasus, Russia, KUADŽE 656; Recorded *Nummulites* from Belgium, LERICHE 688; The evolution of foraminifera in the passage beds of the Cretaceous and Tertiary, MARIE 746; *Queraltina* new genus from Eocene, Pyrenees, MARIE 747; Foraminifera of the Villafranchian, Italy, MARTINIS 751; Pliocene foraminifera of Northern Italy, MARTINIS 752; *Laffiteina* in the Tertiary, Spain, RUIZ DE GAONA 979; *Nummulites* from the Eocene, Spain, RUIZ DE GAONA 981; The genera *Queraltina* and *Almaena* (foraminifera) from the Eocene and Oligocene, Germany, SIGAL 1060; Stratigraphical division of Paleocene and Lower Eocene by nummulitids, SCHAUB 1006; Nummulitids and *Discocyclina* from the Lower Eocene, Pyrenees, SCHAUB & SCHWEIGHAUSER 1007; Listed genera of foraminifera in Eocene, Paris basin, SOYER 1085;

Pullenia duplicata formally described, Oligocene, Germany, STAINFORTH 1102; Tertiary foraminifera in Northern Caucasus, Russia, SUBOTINA 1118; Foraminifera in the Lower Tertiary of Central Precaucasus, Russia, SUKKAJA 1119; *Uhligina* gen. n. Eocene, Japan and West Galicia, YABE & HANZAWA 1261; Listed foraminifera from the Coraline Crag, Pliocene, Suffolk, CAMBRIDGE 165; Foraminifera in the Pliocene, Caucasus, Russia, CHAIN etc. 179; Listed Pliocene foraminifera, France, CIRY, TINTANT & CHAREYRON 199; Eocene foraminifera from Northern Italy, CITA 201; *Ehrenbergina alicantina* sp. n. Miocene, Spain, COLOM 225; Foraminifera and radiolaria in the diatom deposits of Oligocene Age, Southern Spain, COLOM 226; Foraminifera used in oil work, Landes, France, CULLIVIER 262; New foraminifera from the Upper Lutetian of Aquitaine, France, CUVILLIER 263; Listed foraminifera from the Lutetian of France, BALAVOIRE 52; *Nummulites* and *Orthophragmina* in the Eocene, Polish Carpathians, BIEDA 103; New and little known foraminifera from the flysch of the Carpathians, BIEDA 104; Range of certain foraminifera in Tertiary, South Roumania, BUCK 155; *Rotalia becarii* and *Elphidium crispum* in the Pyrenean Pliocene, ASTRE 41; Eocene foraminifera, Spain, ALMELA 21; Listed and figured foraminifera, Eocene, Spain, ALMELA 21; Moravian Neogene records of *Vaginulina legumen*, VAŠIČEK 1184; Foraminifera in the lower Tertiary, Ukraine, VASILENKO 1185; *Trachelomonas* in the Miocene of Italy, SILVESTRI 1067; Coccoliths from the Eocene, France, DEFLANDRE 282; *Taberina* [*Archaias*] *mala-baricus* used as age indicator in Upper Tertiary, India and Ceylon, EAMES 320; Listed foraminifera used in age determination of Uchigo Group, Tertiary, Japan, HATAI & KAMEDA 500; Use of foraminifera in stratigraphy of Kirkuk oilfields, HENSON 507; Foraminifera from the Eocene, India, JACOB & SASTRI 578; Eocene and Oligocene foraminifera from S.W. Iran, THOMAS 1159; Foraminifera in the Asmari Limestone (Oligocene) S.W. Iran, THOMAS 1160;

On *Alveobria violae*, *Eoalveolinella silvestri* and associated fauna, Eocene, Syria, DUBERTRET 314 ; Stelate discocycline from Upper Eocene, India, TEWARI 1143 ; *Actinocyclus* in the Eocene, India, TEWARI 1144 ; Cast of *Nodosaria affinis* in Eocene, California, GRAHAM 450 ; New foraminifera, Eocene, California, GRAHAM 449 ; New name for *Planulina palmerae*, Miocene, Texas, GARRETT 411 ; Pliocene and Pleistocene foraminifera from Gulf of California, NATLAND 810 ; Eocene foraminifera from Maryland, U.S.A., SHIFFLETT 1049 ; Tertiary foraminifera from Cuba, SANCHEZ Y ROIG 994 ; Vertical distribution of *Hantkenina*, THALMANN 1156 ; Miocene foraminifera, Southern Maryland, U.S.A., DORSEY 307 ; *Miscellanea* and *Pellatispirella* in Eocene, Caribbean region, CIZANCOURT 203 ; Larger foraminifera, Maestrichtian and Eocene, Venezuela, CIZANCOURT 204 ; Eocene and Cretaceous foraminifera from Florida, COLE 219 ; Foraminifera from wells in Florida, COLE 221, 222 ; *Ramulina globulifera* from inside *Plicatula* shells, Pliocene, California, CUSHMAN 260 ; Late Cenozoic foraminifera from Oregon, U.S.A., BANDY 58 ; Listed Tertiary foraminifera from Cuba with stratigraphical ranges, BERMUDEZ 98 ; Occurrence and ontogeny of *Globigerinatella insueta* Cushman and Stainforth, Oligocene, Trinidad, B.W.I., BRÖNNIMANN 140 ; *Hantkenina* and subgenera in the Upper Eocene Trinidad and Barbados, BRÖNNIMANN 143 ; *Treursstegina* gen. n. [nom. nud.] Eocene, Barbados, BRÖNNIMANN 144 ; *Amphistegina* in the Tertiary, Trinidad, BRÖNNIMANN 145 ; "*Lockhartia*" *cushmani*, Tertiary, Florida, APPLIN & JORDAN 32 ; *Orthophragmina* sp. from the Eocene of Togo, Africa, FURON & KOURIATCHY 393 ; Foraminifera in the Oligocene, Algeria, MURAOUR 806 ; Tertiary foraminifera from Spanish Morocco, LIZÁUR Y ROLDÁN 702 ; New foraminifera from the Esna Shales [Paleocene] and Upper Cretaceous, Egypt, NAKKADY 809 ; Listed Tertiary foraminifera, New Zealand, COOMBS 228 ; Australian Tertiary foraminifera, CRESPIE 245 ; Australian Tertiary foraminifera, relationship with

assemblages elsewhere in Pacific region, CRESPIE 246 ; Listed foraminifera from the Eocene, Victoria, Australia, BAKER 50 ; Japanese Eocene foraminifera, HANZAWA 494 ; Miocene foraminifera from Borneo, KEYZER 619 ; Eocene foraminifera from Java, MOHLER 783 ; *Flosculinella reicheli* sp. n. Tertiary, Borneo, MOHLER 784 ; Comparison of *Lepidocyclina zeilmansi* and *L. birmanica* from Borneo and Burma, RUTTEN 983 ; *Uhlagina* gen. n. Eocene, Japan and West Galicia, YABE & HANZAWA 1261 ; Listed Pliocene foraminifera from Japan, YABE & HANZAWA 1262 ; *Hantkenina* in Eocene, Indopacific, THALMANN 1151 ; Tertiary larger foraminifera from the Palau Islands, COLE 223 ; Japanese Tertiary foraminifera, ASANO 39 ; Check list of Tertiary smaller foraminifera, Japan, ASANO 37 ; Some Tertiary Lituolidae from Japan, ASANO 36 ; Foraminifera in the Cenozoic of the East Indies, VLEEK 1192 ; Pliocene foraminifera from Sendai, TAKAYANAGI 1135.

Quaternary and Sub-Recent : The interpretation of climatic variations by foraminifera in Atlantic deep-sea core, OVEY 836 ; Causes for broken shells of foraminifera in deep-sea cores, ARRHENIUS 34 ; The use of foraminifera as temperature-indicators in the interpretation of deep-sea cores, WISEMAN & OVEY 1250 ; Foraminifera of the Villafranchian, Italy, MARTINI 751 ; Listed cold water Pleistocene foraminifera, Parma, Italy, BARBIERI & RAFFI 60 ; Listed foraminifera from Pleistocene boulder clay, WRIGHT 1257 ; *Triloculinella obliquinodus* gen. et. sp. n., Lower Pleistocene, California, RICCIO 947 ; Listed Pleistocene and Recent foraminifera, Western Australia, PARR 849 ; Foraminiferal evidence for post-Pliocene age of *Cancer novae-zealandiae*, BENSON & FINLAY 93.

III.—SYSTEMATIC INDEX

PROTOZOA : GENERAL

Brief description of main characters of protozoa by orders, BERTIN 102.

General classification and systematic arrangement of the protozoa, BUISÁN 159.

Protozoa in Italian lakes, MARCHESONI 744.

Protozoa of a Dutch pond, MIDDELHOEK 775.

Listed protozoa of Iowa, SHAWHAN, JOHNSON & JAHN 1047.

Planktonic protozoa off China coast, SPROSTON 1093.

1.—RHIZOPODA

Rhizopods from mosses in Carpathians, BARTOS 69.

Moss-dwelling Rhizopoda of Switzerland, BARTOS 70.

(a) Amoebida

Amoebae: history of study of parasitic amoebae of man (1849–1949), BELTRAN 86.

Amoebae: taxonomic and historical consideration of parasitic amoebae; listed spp. and their hosts, BELTRAN 89.

Endolimax clevelandi sp. n. (p. 491) from turtle *Pseudemys floridana mobilensis*, GUTIERREZ-BALLESTEROS & WENRICH J. Parasit. 36 1950 pp. 489–493 figs.

Entamoeba muris: revision of the species, NEAL 811.

Pelomyxa illinoisensis sp. n. (p. 370) from Illinois pond, KUDO Trans. Amer. micr. Soc. 69 1950 pp. 368–370 figs.

Vahlkamfia beltrani sp. n. (p. 56) from Indian termite *Coptotermes* sp., FROILANO DE MELLO Rev. Soc. Mexic. Hist. nat. 10 [1950] pp. 53–56 figs.

(b) Testacea

Corythion dubium var. n. *aerophila* (p. 46) from moss, France, DECLOITRE Feuille Nat. Paris, N.S. 5 (5–6) 1950 pp. 41–46 figs.

Leukarachnion batrachospermi [? gen. et sp. n.] parasitic in algae, GEITLER 417. [? Heliozoa]

Microcorycia bartosi nom. n. (p. 41) [for *M. spinosa* Bartos 1940, preocc. Heines 1911], DECLOITRE Feuille Nat. Paris, N.S. 5 (5–6) 1950 pp. 41–46 figs.

Trinema enchelys var. n. *aerophila* (p. 46) from moss, France, DECLOITRE Feuille Nat. Paris, N.S. 5 (5–6) 1950 pp. 41–46 figs.

(c) Foraminifera

Specific names of foraminifera in relation to rules of nomenclature, BARTENSTEIN 65.

Listed new names and homonyms (of other authors) in foraminifera, THALMANN 1148.

†Number of new species cited but not named, EMILIANI 333.

†Six spp. n. and one var. n. recorded but not named, Lower Tertiary, Russia, ŠUCKAJA 1119.

†Eocene and Paleocene foraminifera from Germany, WICK 1237.

†Pleistocene, Pliocene and Miocene foraminifera, Holland, VOORTHUYSEN 1196.

†Foraminifera from the Plio-Pleistocene, Holland, VOORTHUYSEN 1195.

†Pliocene foraminifera from Sendai, TAKAYANAGI 1135.

†Eocene foraminifera from Maryland, U.S.A., SHIFFLETT 1049.

Foraminifera from the northern Red Sea, SAID 990.

†Upper Cretaceous foraminifera, Silesia, RŮŽIČKA & BENEŠ 985.

Foraminifera from the southern seas and Antarctic, PARR 850.

†Foraminifera of the Esna Shales, Tertiary-Cretaceous boundary, Egypt, NAKKADY 809.

†Pleistocene and Pliocene foraminifera collected on cruise to Gulf of California, NATLAND 810.

†Pliocene foraminifera from Northern Italy, MARTINIS 752.

†Lower Cretaceous foraminifera from Kansas, U.S.A., LOEBLICH & TAPPAN 707.

†North American Jurassic foraminifera (Callovian), LOEBLICH & TAPPAN 706.

†North American Jurassic foraminifera (Oxfordian), LOEBLICH & TAPPAN 705.

†Tertiary foraminifera from Spanish Morocco, LIZÁUR Y ROLDÁN 702.

†Foraminifera of the Ellis Group, Jurassic, Montana, U.S.A., LALICKER 666.

†Foraminifera from the Lower Gault, Southern England, KHAN 621.

†Listed foraminifera, some new but unnamed, Cretaceous, Carpathians, JEKELINS 599.

†Eocene foraminifera from India, JACOB & SASTRI 578.

Foraminifera from Toyama Bay, Japan, ISHIWADA 574.

†Japanese Eocene foraminifera, HANZAWA 494.

†New Eocene foraminifera from California, GRAHAM 449.

Foraminifera from Larne Lough, Ireland, GOUGH 448.

†Cretaceous foraminifera from Italy, GANDOLFI 403.

†Cretaceous and Tertiary foraminifera from Bavaria, FÖRSTER & OEBBEKE 377.

†Cretaceous foraminifera of Algeria, DUBOURDIEU & SIGAL 316.

†Carboniferous and Permian foraminifera from Iran, DOUGLAS 308.

†A new foraminifera (unnamed) from the Aquitanian of France, CUVILLIER 263.

†Cretaceous, Eocene and Miocene foraminifera, Maryland, U.S.A., CUSHMAN 258.

†Australian Tertiary foraminifera, CRESPIN 245.

Foraminifera from north-west African Atlantic coast, COLOM 224.

†Larger foraminifera from the Tertiary of the Palau Islands, COLE 223.

†Tertiary foraminifera from Florida, COLE 221, 222.

†Triassic to Recent foraminifera, Florida, COLE 220.

†Eocene and Cretaceous foraminifera, Florida, COLE 219.

†Larger foraminifera from the Maestrichtian and Eocene, Venezuela, CIZANCOURT 204.

†Eocene foraminifera from Northern Italy, CITA 201.

†Cretaceous foraminifera, Italy, CITA 200.

†Foraminifera from the Eocene, Carpathians, BIEDA 104.

†Listed Tertiary foraminifera from Cuba, BERMUDEZ 98.

Listed foraminifera, some new but not named nor described, Gulf of Mexico, BEHRE 85.

†Lower Lias foraminifera, Dorset, BARNARD 63.

†Foraminifera from the Lower Lias of Northamptonshire, BARNARD 62.

†Pleistocene cold water foraminifera, Parma, Italy, BARBIERI & RAFFI 60.

†Cretaceous foraminifera from Hokkaido, ASANO 40.

†Japanese Tertiary foraminifera, ASANO 39.

†Upper Cretaceous foraminifera from Japan, ASANO 38.

†Check list of Tertiary small foraminifera, Japan, ASANO 37.

†*Actinocyclus crassicosata* Douvillé in Eocene, India, TEWARI 1144.

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†*Calcitornella woodi* sp. n. [for *Nubecularia lucifuga* Brady, Jones and Parker (*partim*)] (p. 6) Jurassic, Northamptonshire, BARNARD Quart. J. Geol. Soc. Lond. **106** (1) 1950 pp. 1-36 figs.

†*Cancellina nipponica* sp. n. (p. 160) Permian, Japan, OZAWA J. Fac. Sci. Imp. Univ. Tokyo (2) **2** 1927 pp. 121-164 figs.

†*Cancris carmenensis* sp. n. Upper Pliocene, Carmen Island, Gulf of California, NATLAND Mem. Geol. Soc. Amer. **43** 1950 pp. v, 1-55 figs. table.

†*Cassidulina laevigata* var. n. *plio-*
parinata (p. 62) Plio-Pleistocene,
Holland, VOORTHUYSEN Meded. Geol.
Stichting Geol. Bureau, Heerlem,
N.S. 4 1950 pp. 51-72 figs. graphs.

†*Ceratobulimina woodi* sp. n. (p.
276) [for *Pulvinulina hauerii* Chap-
man 1898, non d'Orbigny], Creta-
ceous, England, KHAN J.R. Mier.
Soc. Lond. (3) 70 (3) 1950 pp. 268-
279 figs.

Ceratobuliminoides gen. n. (p. 358)
tasmanensis sp. n. (p. 359) (genotype),
Tasmania, PARR Rep. B.A.N.Z.
Antarctic Exped. 1929-31 5B (6)
1950 pp. 233-392 figs.

†*Chabakovia* (?) *shulgae* sp. n.
(p. 300) Lower Permian, Urals, ELIAS
J. Paleont. 24 (3) 1950 pp. 287-306
figs.

†*Chapamania galea* sp. n. (p. 91)
Miocene [no loc.], SILVESTRI R.C.
Accad. Lincei (5) 32 (2) 1923 pp.
88-92 fig.

†*Chilostomelloides plummerae*, *ma-*
crostoma spp. n. (p. 36) Dano-
Montian, Algeria, DAM & SIGAL
Contr. Cushman Found. Foraminif.
Res. 1 (1-2) 1950 pp. 31-37 figs.

†*Choffatella* in the Lower Creta-
ceous of the Caribbean Region,
MAYNE 762.

†*Cibicides pseudoconoideus* sp. n.
(p. 101); *C. subspiratus* var. n.
limbatus (p. 102) Eocene, Italy,
CITA Riv. ital. Paleont. 56 (3) 1950
pp. 81-113 figs.; (4) 1950 pp. 129-
152; †*C. reicheli* sp. n. (p. 106)
Cretaceous, Italy, GANDOLFI Riv.
ital. Paleont. 48 (4) 1942 pp. 1-160
figs.; †*C. praecursorius* var. n.
madhensis (p. 82) Eocene, India,
JACOB & SASTRI Sci. & Culture,
Calcutta 16 (2) 1950 pp. 80-82 figs.;
†*C. abudurbensis* sp. n. (p. 691)
Paleocene and Cretaceous; *C. multi-*
faria var. n. *mellahensis* (p. 692)
Paleocene [both recorded as nom.
nud. Z.R. for 1949 now validated],
Egypt, NAKKADY J. Paleont. 24 (6)
1950 pp. 675-692 figs.; *C. sub-*
haidingerii sp. n. (p. 364) [for
Truncatulina haidingerii Brady 1884,
non *Rotalina haidingerii* d'Orbigny],
Australia and Tasmania, PARR Rep.
B.A.N.Z. Antarctic Exped. 1929-31
5B (6) 1950 pp. 233-392 figs.; †*C.*

marylandicus sp. n. (p. 74) Eocene,
Maryland, U.S.A., SHIFLETT Mary-
land Dept. Geol. Mines & Water
Resour. Bull. 3 1948 pp. 1-93 figs.;
†*C. cookei* var. n. *limbato-suturalis*
(p. 65), Plio-Pleistocene, Holland,
VOORTHUYSEN Meded. Geol. Stich-
ting Geol. Bureau, Heerlem, N.S.4
1950 pp. 51-72 figs.

†*Citharina latissima* sp. n. (p. 14)
Jurassic, U.S.A., LOEBLICH & TAP-
PAN J. Washington Acad. Sci. 40 (1)
1950 pp. 5-19 figs.; †*C. entypornatus*
sp. n. (p. 57) Jurassic, U.S.A.,
LOEBLICH & TAPPAN J. Paleont. 24
(1) 1950 pp. 39-60 figs.

†*Citharinella compara* sp. n. (p. 14);
C. latifolia sp. n. (p. 15) Jurassic,
U.S.A., LOEBLICH & TAPPAN J.
Washington Acad. Sci. 40 (1) 1950
pp. 5-19 figs.; †*C. exarata*, *rhom-*
boidea spp. n. (p. 58) Jurassic, U.S.A.,
LOEBLICH & TAPPAN J. Paleont. 24
(1) 1950 pp. 39-60 figs.

†*Clavulina floridana* sp. n. (p. 17)
Eocene, Florida, COLE Geol. Bull.
Florida Geol. Surv. No. 20 1942 pp.
1-89 figs.; †*Clavulina isidrensis* sp.
n. (p. 67) Cambrian, Argentine,
RUSCONI Rev. Mus. Hist. nat.
Mendoza 4 (3-4) 1950 pp. 63-70 figs.

†*Clavulinoides rugulosa* sp. n. (p.
32); *C. algeriana* sp. n. (p. 33),
Dano-Montian, Algeria, DAM & SIGAL
Contr. Cushman Found. Foraminif.
Res. 1 (1-2) 1950 pp. 31-37 figs.

†*Conorbina brotzeni* sp. n. (p. 91)
Cretaceous, Italy, GANDOLFI Riv.
ital. Paleont. 48 (4) 1942 pp. 1-160
figs.

Cornuspira tasmanica sp. n. (p. 285)
off Tasmania, PARR Rep. B.A.N.Z.
Antarctic Exped. 1929-31 5B (6)
1950 pp. 233-392 figs.

†*Coskinolina elongata* sp. n. (p. 20)
Eocene, Florida, COLE Geol. Bull.
Florida Geol. Surv. No. 20 1942 pp.
1-89 figs.

†*Cribrbulimina floridana* sp. n.
(p. 17) Middle Eocene, Florida, COLE
Geol. Bull. Florida Geol. Surv.
No. 20 1942 pp. 1-89 figs.

†*Cribrostomoides kyushuense* sp. n.
(p. 77) Miocene, Japan, ASANO
Contr. Cushman Found. Foraminif.
Res. 1 (3-4) 1950 pp. 75-79 figs.;
†*Cribrostomoides* Cushman, emend.

[=*Nonionina* d'Orb. (*partim*) fide Williamson 1858; *Haplophragmium* Reuss (*partim*) auct.; *Lituola* Lam. fide Sars 1869; *Haplophragmoides* Cushman (*partim*) 1910; *Cribrostomoides* Cushman 1910; *Labrospira* Höglund 1947] Genotype *C. bradyi* Cushman (original designation), FRIZZELL & SCHWARTZ 386.

†*Cristellaria* (*Lenticulina*) *vonder-schmitti* sp. n. (p. 55) Cretaceous, Italy, GANDOLFI Riv. ital. Paleont. 48 (4) 1942 pp. 1-160 figs.; †*C. obliquecostata* sp. n. (p. 12) Paleocene, Germany, WICK Abh. senckenb. naturf. Ges. No. 468 1943 pp. 1-40 figs.

Cycammina tasmanica sp. n. (p. 274) off Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.; †*C. japonica* sp. n. (p. 78) Miocene, Japan, ASANO Contr. Cushman Found Foraminif. Res. 1 (3-4) 1950 pp. 75-79 figs.

†*Darbyella pulchra* sp. n. (p. 89) Eocene, Italy, CITA Riv. ital. Paleont. 56 (3) 1950 pp. 81-113 figs.; (4) 1950 pp. 129-152.

Dentalina transhicens sp. n. (p. 328) Antarctic and Tasmania; *D. antarctica* sp. n. (p. 329) Antarctic; *D. subemaciata* sp. n. (p. 329) Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.; †*D. langi* sp. n. [for *D. obliquestriata* Reuss fide Blake, 1876] (p. 361) Lower Lias, Dorset, BARNARD Quart. J. Geol. Soc. Lond. 105 (3) 1950 pp. 347-391 figs.; *D. hancocki* sp. n. (p. 316) off San Clemente Island, Pacific, CUSHMAN & McCULLOCH Allan Hancock Pacific Exped. 6 (6) 1950 pp. 295-364 figs.; †*D. gracilistriata*, *ochyra*, spp. n. (p. 10); *D. polyholca* sp. n. (p. 11) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Washington Acad. Sci. 40 (1) 1950 pp. 5-19 figs.; †*D. brachista*, *ectadia* spp. n. (p. 47); *D. ejuncida*, *leptosyna*, *liota* spp. n. (p. 48) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. 24 (1) 1950 pp. 39-60 figs.; †*D. ansa*, *hasta* spp. n. (p. 15) Jurassic, Montana, U.S.A., LALICKER Paleont. Contr. Univ. Kansas (Protozoa, Art. 2) pp. 3-70 figs.

†*Dimorphina janjukensis* sp. n. (p. 73) Miocene, Australia, CRESPIN Contr. Cushman Found. Foraminif. Res. 1 (3-4) 1950 pp. 70-75 figs.

†*Discocyclina* (*Asterocyclina*) *nas-sauensis* sp. n. (p. 79) Upper Eocene, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 26 1944 pp. 1-88 figs. (pp. 104-159)

Discorbis umbonifer sp. n. (p. 353); *D. lobatulus* sp. n. (p. 354) [for *Discorbina isabelleana* Brady 1884, non d'Orbigny], Tasmania; *D. subcomplanatus* sp. n. (p. 355) Antarctic; *D. wiesneri* sp. n. (p. 356) [for *Discorbina parisiensis* Brady 1884, non *Rosalina parisiensis* d'Orbigny, and *D. p.* Wiesner 1931, non *R. p.* d'Orbigny], Kerguelan, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.; †*D. ornatissimus* var. n. *oregonensis* (p. 279) Pleistocene, Oregon, BANDY J. Paleont. 24 (3) pp. 269-281 figs.; †*D. suturelis*, *inornatus* spp. n. (p. 30) Eocene, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 20 1942 pp. 1-89 figs.; †*D. warreni* sp. n. (p. 310) [for ?*D. floridana* Cushman 1932, and Cushman & Cahill 1933, non Cushman 1922]; *D. cavernata* sp. n. (p. 311) Miocene, Maryland, U.S.A., DORSEY Maryland Dept. Geol. Mines & Water Resour. Bull. 2 1948 pp. 268-321 figs.; †*D. parkeri* sp. n. (p. 27) [for *D. nitida* Cushman & Parker 1931 non Williamson], Recent, on coasts of Mexico and Central America, NATLAND Mem. Geol. Soc. Amer. 43 1950 pp. v, 1-55 figs.; †*D. pseudoscopos* sp. n. (p. 688), Cretaceous; *D. p.* var. n. *duwi* (p. 689), Paleocene [both recorded as nom. nud. Z.R. for 1949 now validated], Egypt, NAKKADY J. Paleont. 24 (6) 1950 pp. 675-692 figs.; †*D. amicus*, *calyptra* spp. n. (p. 65), Eocene, Maryland and Virginia respectively, U.S.A., SHIFFLETT, Maryland Dept. Geol. Mines & Water Resour. Bull. 3 1948 pp. 1-93 figs.

Dorothia pusilla, *tortilis* spp. n. (p. 282) off Tasmania and Antarctic respectively, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 133-392 figs.

†*Dunbarula mathiewi* sp. n. (p. 103) Permian, Tunisia, CIRY Bull. Sci. Bourgnagne 11 1948 pp. 103-111 figs.

Dycibicides laevis sp. n. (p. 365) Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 **5B** (6) 1950 pp. 233-392 figs.

Ergerella subconica sp. n. (p. 281) [for *E.* sp. Parr 1945], off Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 **5B** (6) 1950 pp. 233-392 figs.

Ehrenbergina pacifica var. n. *aspinosa* (p. 345) off Tasmania and New South Wales, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31, ADELAIDE **5B** (6) 1950 pp. 293-392 figs.; †*E. alicantina* sp. n. (p. 160) Miocene, Spain, COLOM Notas Com. Inst. geol. España **20** 1950 pp. 157-161 [1-5] fig.

†*Ellipsonodosaria calvertensis* sp. n. (p. 223) Miocene, Maryland, U.S.A., CUSHMAN Maryland Dept. Geol. Mines & Water Resour. Bull. **2** 1940 pp. 213-267 figs.

†*Ellisina* gen. n. (p. 18) *spatula* sp. n. (genotype) (p. 19) Jurassic, Montana, U.S.A., LALICKER Paleont. Contr. Univ. Kansas (Protozoa, Art. 2) pp. 3-20 figs.

Elphidioides gen. n. (p. 373) (genotype *Polystomella imperatrix* Brady), PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 **5B** (6) 1950 pp. 233-392 figs.

Elphidium mawsoni sp. n. (p. 372); *E. kerguelenense* sp. n. (p. 373) Kerguelen, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 Adelaide, **5B** (6) 1950 pp. 233-392 figs.; †*E. clarki* sp. n. (p. 282) Eocene, California, GRAHAM J. Paleont. **24** (3) 1950 pp. 282-286 figs.; †*E. sendaiense* sp. n. (p. 26), *E. advenum* subsp. n. *gorokuense* (p. 27) Pliocene, Sendai, TAKAYANAGI Short Pap. Inst. Geol. Paleont. Tôhoku Univ. No. **2** 1950 pp. 23-28 figs.; †*E. haagensis* sp. n. (p. 43) Plio-Pleistocene, Holland, VOORTHUYSEN Meded. Geol. Stichting Geol. Bureau, Heerlem, N.S. **24** 1950 pp. 31-50 figs.

†*Entosolenia oslatus* sp. n. (p. 62) Eocene, Virginia, U.S.A., SHIFFLETT Maryland Dept. Geol. Mines & Water Resour. Bull. **3** 1948 pp. 1-93 figs.

†*Eoguttulina amygdalina* sp. n. (p. 59) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. **24** (1) 1950

pp. 39-60 figs.; †*E. pila, vaga, axilla* spp. n. (p. 19) Jurassic, Montana, U.S.A., LALICKER Paleont. Contr. Univ. Kansas (Protozoa, Art. 2) pp. 3-20 figs.

Eouvigerina aegyptiaca sp. n. (p. 686) [recorded as nom. nud. Z.R. for 1949 now validated], Paleocene and Cretaceous, Egypt, NAKKADY J. Paleont. **24** (16) 1950 pp. 675-692 figs.

†*Epistomina liassica* sp. n. (p. 377) Lower Lias, Dorset, BARNARD Quart. J. Geol. Soc. Lond. **105** (3) 1950 pp. 347-391 figs.; †*E. colomi* sp. n. (p. 217) [for *E. spinalifica* (Reuss) Colom 1948, *partim*]; *E. catenula* sp. n. (p. 219) Cretaceous, Algeria, DUBOURDIEN & SIGAL Bull. Soc. géol. Fr. (5) **19** (1-3) 1949 pp. 205-211 figs.

Eponides pusillus sp. n. (p. 360) Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 **5B** (6) 1950 pp. 233-392 figs.; †*E. blancoensis* sp. n. p. 277, Pliocene, Oregon, BANDY. J. Paleont. **24** (3) pp. 269-281 figs.; †*E. gunteri* sp. n. (p. 31) Eocene, Florida, COLE Bull. Florida Geol. Surv. No. **20** 1942 pp. 1-89 figs.; †*E. lewinski* sp. n. (pp. 183, 188) Cretaceous, Poland, LISZKA Roczn. Polsk. Towarz. Geol. **18** 1949 pp. 180-190 figs.; †*E. abatissae* var. *greigi* nom. n. [for *E. a.* var. *multicameratus* Peters & Gandolfi 1948, preocc. *E. multicameratus* Kleinpell, 1938 (p. 18) Oligocene, PETTERS & GANDOLFI Micropaleontologist **4** (1) 1950 p. 18; †*E. labiomargus* sp. n. (p. 67) Eocene Maryland and Virginia, U.S.A., SHIFFLETT Maryland Dept. Geol. Mines & Water Resour. Bull. **3** 1948 pp. 1-93 figs.; *Eponides*, suggested new description, HOKKER **540**; †*Falsopalmula antrorsa* sp. n. p. 57, Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. **24** (1) 1950 pp. 39-60 figs.; *Fissurina kerguelensis* sp. n. (p. 305) [for *Lagena staphyllearia* Brady 1884, non *F. s.* Schwager], Kerguelen-Heard Island area; *F. earlandi* sp. n. (p. 306) [for *Lagena marginata* Chapman 1916, non *Serpula* (*Lagena*) *marginata* Walker & Boys; and *L. biancae* H. A. & E. 1932, non *Fissurina biancae* Seguenza], Antarc-

- tic and Kerguelan; *F. subvertens* sp. n. (p. 308) Antarctic; *F. fissicarinata* sp. n. (p. 309) Antarctic and Kerguelan; *F. lassensis* sp. n. (p. 309) Tasmania; *F. quinqueannulata* sp. n. (p. 310) Tasmania; *F. collinsi* sp. n. (p. 311) off Australia; *F. subsircularis*, *curvituba*, *bimarginata* spp. n. (p. 311) Tasmania; *F. aperture-alata*, *basifimbriata* spp. n. (p. 312) Tasmania (latter also in Tertiary of Victoria); *F. formosa* var. n., *angusticarinata* (p. 313) Antarctic; *F. subformosa* sp. n. (p. 313) Antarctic; *F. pacifica* sp. n. [for *Lagena* (?) *formosa* Brady 1884, and *L. f.* Sidebottom 1913 non Schwager], Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 **5B** (6) 1950 pp. 233-392 figs.
- †*Flosculinella reicheli* sp. n. (p. 521) Tertiary, Borneo, MOHLER Ecl. geol. helv. **42** (2) 1949 [1950] pp. 521-527 figs.
- †*Frankeina commutata* sp. n. [for *Frankeina* sp.? Wickenden, 1933] (p. 6) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Washington Acad. Sci. **40** (1) 1950 pp. 5-19 figs.
- †*Fronicularia limbata* sp. n. (p. 370) Lower Lias, Dorset, BARNARD Quart. J. Geol. Soc. Lond. **105** (3) pp. 347-391 figs.; †*F. victoriae* sp. n. (p. 73) Miocene, Australia, CRESPIN Contr. Cushman Found. Foraminif. Res. **1** (3-4) 1950 pp. 70-75 figs.; *F. californica* sp. n. (p. 328) Pacific, CUSHMAN & McCULLOCH Allan Hancock Pacific Exped. **6** (6) 1950 pp. 295-364 figs.; †*F. spatha* sp. n. (p. 17); *F. forma* sp. n. (p. 18) Jurassic, Montana, U.S.A., LALICKER Paleont. Contr. Univ. Kansas (Protozoa), Art. 2) pp. 3-20 figs.; †*F. esnebensis* sp. n. (p. 685) [recorded as nom. nud. Z.R. 1949 was validated], Paleocene; *F. wanneri* sp. n. (p. 685) [for *F. sp. n.* Wanner 1902], Cretaceous or Paleocene, Egypt, NAKKADY J. Paleont. **24** (6) 1950 pp. 675-692 figs.; *F. bassensis* sp. n. (p. 331) [for *F. nitida* Taquem. var., Sidebottom 1918], Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 **5B** (6) 1950 pp. 233-392 figs.
- †*Fusulinella compressa* sp. n. (p. 142) Carboniferous, Japan, OZAWA J. Fac. Sci. Imp. Univ. Tokyo (2) **2** 1927 pp. 121-164 figs.; †*F. fusiformis* sp. n. (p. 94) Carboniferous, China, YAO Fiftieth Aniv. Papers Nat. Peking Univ. Geol. **1948** pp. 77-102 figs.
- †Fusulinellinae subfam. n. (p. 378) Lower Permian, Russia, ROZOVSKAJA C.R. Acad. Sci. Moscow, N.S. **73** (2) 1950 pp. 375-378.
- †Fusulinidae: Systematics, ROZOVSKAJA **972**.
- †Fusulinidae of Japan, OZAWA **838**.
- †Fusulinid genera *Eoverbeckina*, *Nankinella* and *Sphaerulina* in Permian, Japan, HANZAWA **495**.
- †Fusulinids from the Permian, British Columbia, THOMPSON & VERVILLE **1161**.
- †Fusulinids from the Pennsylvanian of Utah, THOMPSON, VERVILLE & BISSELL **1162**.
- †Fusulinids from the Middle and Upper Permian, Washington and British Columbia, THOMPSON, WHEELER & DANNER **1163**.
- †Fusulinids of the Permian and Carboniferous of China, YAO **1265**.
- †*Gaudryina* (*Siphogaudryina*) *aisana* sp. n. (p. 31); *G. (S.) rectangularis* sp. n. (p. 32) Dano-Montian, Algeria, DAM & SIGAL Contr. Cushman Found. Foraminif. Res. **1** 1950 pp. 31-37 figs.; †*G. karihaensis* sp. n. (p. 6); *G. (Pseudogaudryina) niigataensis* sp. n. (p. 8) Pliocene, Japan, ASANO Short Pap. Inst. Geol. Paleont. Tôhoku Univ. No. **1** 1950 pp. 5-10 figs.; †*G. soldadoensis* var. n. *cavus-dulcis* (p. 683) [recorded as nom. nud. Z.R. for 1949 now validated], Paleocene, Egypt, NAKKADY J. Paleont. **24** (6) 1950 pp. 675-692 figs.
- †*Gaudryinella mendrisiensis* sp. n. (p. 42) Cretaceous, Italy, GANDOLFI Riv. ital. Paleont. **48** (4) 1942 pp. 1-160 figs.; †*G. teshioensis* sp. n. (p. 20) Cretaceous, Hokkaido, ASANO Short Pap. Inst. Geol. Paleont. Tôhoku Univ. No. **2** 1950 pp. 13-22 figs.; †*G. hanzawai*, *japonica* spp. n. (p. 9) Pliocene, Japan, ASANO Short Pap. Inst. Geol. Paleont. Tôhoku Univ. No. **1** 1950 pp. 5-10 figs.

Glandulina antarctica sp. n. (p. 334) [for *G. rotundata* Wiesner 1931, non Reuss, and *G. laevigata* Wiesner 1931, non *Nordosaria* (*G.*) *laevigata* d'Orbigny], Antarctic, Kerguelan and Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 **5B** (6) 1950 pp. 233-392 figs.; †*G. reki-taensis* sp. n. (p. 124) Tertiary, Roumania, FRANZENAU Földt, Közlöny. Budapest **50** 1920 [1921] pp. 124-126 figs.

†*Globigerina cretacea* var. n. *esne-hensis* sp. n. (p. 689) [recorded as nom. nud. Z.R. for 1949 now validated], Paleocene, Egypt, NAKKADY J. Paleont. **24** (16) 1950 pp. 675-692 figs.

†*Globorotalia fohsi* subsp. n. *robusta* (p. 89) Oligocene, Trinidad, B.W.I., BOLLI Contr. Cushman Found. Foraminif. Res. **1** (3-4) 1950 pp. 82-89 figs.

†Globorotalids, Upper Cretaceous, Switzerland, MORNOD **791**.

†*Globotruncana indica* sp. n. (p. 267) Cretaceous, India, JACOB & SASTRY Science & Culture **16** 1950 pp. 266-268 figs.; †*G. ticinensis* sp. n. (p. 113); *G. renzi* sp. n. (p. 124) [for transition form between *G. apenninica* and *G. linnei* of Renz (*partim*) 1936]; *G. stephani* sp. n. (p. 130) Cretaceous, Italy, GANDOLFI Riv. ital. Paleont. **48** (4) 1942 pp. 1-160 figs.; †*G. (Rotali-pora) reicheli* sp. n. (p. 583) [for *G. apenninica* Renz var. γ fide Gandolfi in litt.]; *G. (R.) montsalvensis* sp. n. (p. 584) var. n. *minor* (p. 586); *G. imbricata* sp. n. (p. 589) Upper Cretaceous, Switzerland, Mornod Ecl. geol. helv. **42** (2) 1949 [1950] pp. 573-596 figs.; †*G. aegyptiaca* sp. n. (p. 690) Paleocene and Cretaceous; *G. a.* var. n. *duwi* (p. 690) Cretaceous; *G. arca* var. n. *estichensis* (p. 690) Paleocene and Cretaceous [all recorded as nom. nud. Z.R. for 1949 now validated], Egypt, NAKKADY J. Paleont. **24** (6) 1950 pp. 675-692 figs.; †*G. stephani* var. n. *turbinata* (p. 609) [for *G. apenninica* var. *beta* Gandolfi]; *G. (Globotruncana) sigali* sp. n. (p. 610) Cretaceous, Switzerland, REICHEL Ecl. geol. helv. **42** (2) 1949 [1950] pp. 596-617 figs.

†*Grzybowskia* gen. n. (pp. 151, 167) *multifida* sp. n. (pp. 153, 168) (genotype), Eocene, Carpathians, BREDA Roczn. Polsk. Towarz. Geol. **10** 1949 pp. 151-184 figs.

†*Gumbelina striata* var. n. *compressa* (p. 686) [recorded as nom. nud. Z.R. for 1949 now validated], Paleocene, Egypt, NAKKADY J. Paleont. **24** (6) 1950 pp. 675-692 figs.

†*Guttulina elegans* sp. n. (p. 292) [for *G. austriaca* Cushman and Ponton 1932, and Ellisor 1940, non d'Orbigny]; †*G. retiornata* sp. n. (p. 293) [for *G. costatula* Cushman 1930, and Cushman and Cahill 1933, non Galloway and Wissler], Miocene, U.S.A., DORSEY Maryland Dept. Geol. Mines & Water Resour. Bull. **2** 1948 pp. 268-321 figs.; †*G. physalia* sp. n. (p. 59) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. **24** (1) 1950 pp. 39-60 figs.; †*G. fraga*, *pera*, *stilla* spp. n. (p. 20) Jurassic, Montana, U.S.A., LALICKER Paleont. Contr. Univ. Kansas (Protozoa, Art. 2) pp. 3-20 figs.

†*Gyroidina marylandica* sp. n. (p. 224) Miocene or ?Eocene, Maryland, U.S.A., CUSHMAN Maryland Dept. Geol. Mines & Water Resour. Bull. **2** 1940 pp. 213-267 figs.; †*G. nassauensis* sp. n. (p. 53) Middle Eocene, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 26 1944 pp. 1-88 figs. (pp. 104-159); †*G. cretosa* sp. n. (p. 31) Upper Cretaceous, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 20 1942 pp. 1-89 figs.; †*G. carmenensis* sp. n. (p. 28); *G. rothwelli* sp. n. (p. 29) Pliocene, Californian region, NATLAND Mem. Geol. Soc. Amer. **43** 1950 p. v, 1-55 figs.

†*Hantkenina* in Trinidad and Barbados, B.W.I., BRÖNNIMANN **141**.

†*Hantkeninella* subgen. n. (pp. 399, 416) Eocene, B.W.I., BRÖNNIMANN J. Paleont. **24** (4) 1950 pp. 397-420 figs.

†*Hantkenina* (*Hantkenina*) *thalmanni* sp. n. (p. 415); *H. (H.) suprasuturalis* sp. n. [for *H. alabamensis* Rey (*partim*)] (p. 416) Eocene, B.W.I., BRÖNNIMANN J. Paleont. **24** (4) 1950 pp. 397-420 figs.

†*Haplophragmium slingeri* sp. n. (p. 288) Oligocene, S.W. Iran, THOMAS Ann. Mag. nat. Hist. (12) 3 1950 pp. 287–301 figs.

Haplophragmoides subtrullissatus sp. n. (p. 271) Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 5B (6) 1950 pp. 233–392 figs.; †*H. ijimai* sp. n. (p. 17) Cretaceous, Hokkaido, ASANO Short Pap. Inst. Geol. Paleont. Tôhoku Univ. No. 2 1950 pp. 13–22 figs.; †*H. orenzi* sp. n. (p. 77) Miocene, Japan, ASANO Contr. Cushman Found. Foraminif. Res. 1 (3–4) 1950 pp. 75–79 figs.; †*H. tryssa* sp. n. (p. 41) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. 24 (1) 1950 pp. 39–60 figs.;

†*H. cyclamminiformis, maroccana* spp. n. (p. 39) Carboniferous, Morocco TERMIER Notes & Mem. Serv. Carte géol. Maroc. 13 1950 pp. 29–40 figs.

†*Hellenocyclus gen. n. beotica* sp. n. (p. 482) (genotype) [recorded Z.R. 1949 (abstract), now fully described], Upper Cretaceous, Greece, REICHEL Ecl. géol. helv. 42 (2) 1949 [1950] pp. 480–485 figs.

Heronallenia laevis sp. n. (p. 357); *H. polita* sp. n. (p. 358), Antarctic; *H. parva* sp. n. (p. 358), Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 5B (6) 1950 pp. 233–392 figs.

†*Hormosina folkestoniensis* sp. n. (p. 268) [for *H. globulifera* Chapman 1892, non Brady], Cretaceous, England, KHAN J.R. Mier. Soc. Lond. (3) 70 (3) 1950 pp. 268–279 figs.

Hyperammina cylindrica sp. n. (p. 254) [for *H. elongata* Brady 1884 *partim*, non Brady 1878 and Wiesner 1931] Antarctic, PARR Rep. B.A.N.Z. Antarctic Res. Exped. 1929–31 5B (6) 1950 pp. 233–392 figs.

Karrerella pusilla sp. n. (p. 283) Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 5B (6) 1950 pp. 233–392 figs.

Labrospira wiesneri sp. n. (p. 272) [for *Trochammina trullissata* Brady 1884 (*partim*) non 1879, and Cushman 1910 etc.], Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 5B (6) 1950 pp. 233–392 figs.

Lagenella implicata sp. n. (p. 340); *L. inepta* sp. n. (p. 341); *L. striatopunctata* var. *n. excentricitas, cista* (p. 352); *L. s. var. n. gemma* (p. 353) Pacific, CUSHMAN & McCULLOCH Allan Hancock Pacific Exped. 6 (6) 1950 pp. 295–364 figs.; †*L. exomala* sp. n. (p. 12) Lower Cretaceous, Kansas, LOEBLICH & TAPPAN Paleont. Contr. Univ. Kansas (Protozoa, Art. 3) 1950 pp. 1–15 figs.; †*L. striata* var. *wiesneri* nom. n. (p. 301) [for *L. s. var. interrupta* Wiesner 1931, preocc. *L. interrupta* Williamson]; *L. sub-acuticosta* sp. n. (p. 302) [for *L. acuticosta* Wiesner 1931, non Reuss], Southern seas and Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 5B (6) 1950 pp. 233–392 figs.; *L. samamie* Berry now considered to be termite pellet, STONE 1112.

Lagenidae of the Pacific Ocean, CUSHMAN & McCULLOCH 261.

†*Laffitteina vallisensis* sp. n. (p. 87); *L. yarzai* sp. n. (p. 90) Eocene, Spain, RUIZ DE GAONA Notas Com. Inst. geol. España 18 1948 pp. 77–92 [1–16] figs.

†*Laticarinina prima* sp. n. (p. 37) Dano-Montian, Algeria, DAM & SIGAL Contr. Cushman Found. Foraminif. Res. 1 (1–2) 1950 pp. 31–37 figs.

Lenticulina subgibba sp. n. (p. 321) Tasmania; *L. (Robulus) tasmanica, suborbicularis* spp. n. (p. 321) Tasmania; *L. (R.) australis* sp. n. Tasmania; *L. (R.) asterizans* sp. n. (p. 322) Antarctic; *L. (R.) antarctica* sp. n. [for *Cristellaria gibba* Wiesner 1931, non d'Orbigny], Antarctic; *L. (R.) altifrons* sp. n. (p. 323) [for *Cristellaria acutaureicularis* Brady 1884, non *Nautilus acutaureicularis* Fichtal and Moll], Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 5B (6) 1950 pp. 233–392 figs.; †*L. nakagawaensis* sp. n. (p. 21); *L. (?) teshioensis* sp. n. (p. 21) Cretaceous, Hokkaido, ASANO Short Pap. Inst. Geol. Paleont. Tôhoku Univ. No. 2 1950 pp. 13–22 figs.; †*L. dilecta* sp. n. [for *L. helios* (Terquem) Sandidge 1933 and *L. sarthacensis* (Schwager) Wickenden, 1933 (*partim*), (p. 7) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Washington Acad. Sci. 40 (1) 1950 pp. 5–19 figs.;

†*L. audax* sp. n. (p. 43) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. **24** (1) 1950 pp. 39–60 figs.; †*L. piluicensis* sp. n. (pp. 182, 187) Cretaceous, Poland, LISZKA Roczn. Polsk. Towarz. Geol. **18** 1949 pp. 180–190 figs.

†*Lepidocyclina* (*Lepidocyclina*) *mantelli* var. n. *papillata* (p. 300) [for *L. (L.) m.* var. Vaughan 1927], Oligocene, U.S.A., VAUGHAN Proc. Acad. nat. Sci. Philad. **79** 1927 [1928] pp. 299–303 figs.; †*L. (Nephrolepidina) palanensis* sp. n. (p. 25) Miocene, Palau Islands, COLE Prop. Pap. U.S. Geol. Surv. **221-B** 1950 pp. 21–31 figs.; †*L. (Nephrolepidina) leonensis* sp. n. (p. 32) Oligocene; *L. (N.) sanfernandensis* var. n. *tallahasseeensis* (p. 34) Upper Eocene; *L. (N.) suwanneensis* sp. n. (p. 39) Oligocene, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 28 1945 pp. 1–74 figs.; †*L. (Phiolepidina) cedarkeysensis* sp. n. (p. 43) Eocene, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 20 1942 pp. 1–89 figs.; †*L. mantelli* (Morton) Gümbel, notes on types of, VAUGHAN 1186.

†*Lepidorbitoides* (*Lepidorbitoides*) *floridensis* sp. n. (p. 37) Upper Cretaceous, COLE Geol. Bull. Florida Geol. Surv. No. 20 1942 pp. 1–89 figs.; †*L. ? minuscula* sp. n. (p. 24) Cretaceous, Italy, SILVESTRI Riv. Ital. Paleon. **30** 1924 pp. 17–26 figs.

†*Linderina floridensis* sp. n. (p. 36) Eocene, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 20 1942 pp. 1–89 figs.

†*Lingulina charagmata, rursa* spp. n.; *L. hathra* sp. n. [for *Frondicularia* cf. *francica* Gümbel and *F. lingulaeformis* Schwager fide Wickenden, 1933] (p. 12) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Washington Acad. Sci. **40** (1) 1950 pp. 5–19 figs.; †*L. ampliata, camerata* spp. n. (p. 50); *L. lordosa, micida, tumida* spp. n. (p. 51) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. **24** (1) 1950 pp. 39–60 figs.

†Lituolidae from the Tertiary, Japan, ASANO 36.

†*Lituonella elegans* sp. n. (p. 19) Eocene, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 20 1942 pp. 1–89 figs.

†*Lituotruba navetensis* nom. n. [for *L. eocenica* Cushman & Renz, 1948 preocc. *L. (?) eocenica* Yabe, 1921] p. 45, Eocene, B.W.I., RENZ Contr. Cushman Found. Foraminif. Res. **1** (3–4) 1952 pp. 44–45.

†“*Lockhartia*” *cushmani* Applin & Jordan (non *Rotalia cushmani* A. & J. 1945), but quotes used, as generic characters might possibly belong to those of *Rotalia*, APPLIN & JORDAN 32.

†*Loxostoma applinae* var. n. *aegyptiaca* (p. 687) [recorded as nom. nud. Z.R. for 1949 now validated], Eocene and Paleocene, NAKKADY J. Paleont. **24** (6) 1950 pp. 675–692 figs.

Marginulina hancocki sp. n. (p. 309) Pacific, CUSHMAN & McCULLOCH Allan Hancock Pacific. Exped. **6** (6) 1950 pp. 295–364 figs.; †*M. caelata, erromena* spp. n. (p. 46) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. **24** (1) 1950 pp. 39–60 figs.; †*M. diversicostata* sp. n. (pp. 182, 188) Cretaceous, Poland, LISZKA Roczn. Polsk. Towarz. Geol. **18** 1949 pp. 180–190 figs.; †*M. oridica, scapha* spp. n. (p. 12); *M. clava, oruga, cymba* spp. n. (p. 13); *M. sarpa, sicula, virga, orica, sporta, crepida* spp. n. (p. 14) Jurassic, Montana, U.S.A., LALICKER Paleont. Contr. Univ. Kansas (Protozoa, Art. 2) pp. 3–20 figs.; †*M. wetherelli* varr. n. *intercostata, longicostata* (p. 684) [both recorded as nom. nud. Z.R. for 1949 now validated], Paleocene, Egypt, NAKKADY J. Paleont. **24** (6) 1950 pp. 675–692 figs.; *M. perobesa* sp. n. (p. 326) Tasmania, PARE Rep. B.A.N.Z. Antarctic Exped. 1929–31 **5B** (6) 1950 pp. 233–392 figs.; †*M. (Saracenaria) trigonalis* sp. n. (p. 373) Lower Lias, Dorset, BARNARD Quart. J. Geol. Soc. Lond. **105** (3) 1950 pp. 347–391 figs.

†*Marginulinopsis phregmites* sp. n. [for *M. cf. lacunata* (Terquem) Sandidge, 1933; *M. cf. lacunata* (Terquem & Berthelin) Wickenden, 1933, and *M. cf. sparsa* (T. & B.) Wickenden, 1933] (p. 9) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Washington Acad. Sci. **40** (1) 1950 pp. 5–19 figs.

†*Martinottiella eocenica* nom. n. (p. 48) [ascribed by author to

Cushman and Bermudez for *Listerella gracillima* C. & B. 1937; Cushman 1937; Bermudez 1938, preocc. *L. communis* (d'Orb.) var. *gracillima* Cushman; also for *Schenckella gracillima* Martin 1943 (list)], CUSHMAN Cushman Lab. Foraminif. Res. Spec. Publ. 8A 1947 viii + 69 pp. figs.

†*Miscellanea hedbergi, nicaraguana* spp. n. (p. 669) Eocene, Caribbean region, CIZANCOURT Bull. Soc. géol. Fr. (5) 18 (8-9) 1948 pp. 663-669 figs.

Mississippina pacifica sp. n. (p. 361) Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.

†*Nankinella hupehensis* sp. n. (p. 89) Carboniferous, China, YAO Fiftieth Aniv. Papers Nat. Peking Univ. Geol. 1948 pp. 77-102 figs.

†*Neobulimina primitiva* (Cushman) (p. 14) nov. comb. for *Virgulina primitiva* Cushman, LOEBLICH & TAPPAN Paleont. Contr. Univ. Kansas (Protozoa, Art. 3) 1950 pp. 1-15 figs.

†*Neoschwagerina simplex* sp. n. (p. 153); *N. colaniae* sp. n. (p. 157); *N. katoi* sp. n. (p. 159) [for *N. margaritae* OZAWA, 1925], Permian, Japan, OZAWA J. Fac. Sci. Imp. Univ. Tokyo (2) 2 1927 pp. 121-164 figs.; †*N. brevis, marcopensis* spp. n. (p. 59) Permian, Washington and British Columbia, THOMPSON, WHEELER & DANNER Contr. Cushman Found, Foraminif. Res. 1 (3-4) 1950 pp. 46-63 figs.

†*Nodosaria fontanesi* var. n. *flexocarinata* (p. 269) Cretaceous, England, KHAN J.R. Micr. Soc. Lond. (3) 70 (3) 1950 pp. 268-279 figs.; †*N. orthostoecha* sp. n.: for *N. cf. corallina* Gümbel fide Wickenden, 1933] (p. 11); *N. sphingothalama* sp. n. (p. 11) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Washington Acad. Sci. 40 (1) 1950 pp. 5-19 figs.; †*N. amphigya* sp. n. (p. 48); *N. balteata, daedala, lirulata, mecista* spp. n. (p. 49), Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. 24 (1) 1950 pp. 39-60 figs.; †*N. linea, elegantia, macula* spp. n. (p. 15), *N. orbita* sp. n. (p. 16) Jurassic, Montana, U.S.A.,

LALICKER Paleont. Contr. Univ. Kansas (Protozoa, Art. 2) pp. 3-20 figs.; *N. dodiolaris* sp. n. (p. 330) [for *N. raphanistrum* Earland 1934, and Chapman and Parr 1937, non *Nautilus raphanistrum* Linn.], Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.; †*N. globulata, byfieldensis* spp. n. (p. 17); *N. obscura* var. n. *liassica* (p. 18) Jurassic, Northamptonshire, BARNARD Q. J. geol. Soc. Lond. 106 (1) 1950 pp. 1-36 figs.

†*Nonion marylandicum* sp. n. (p. 301) Miocene, Maryland, U.S.A., DORSEY Maryland Dept. Geol. Mines & Water Resour. Bull. 2 1948 pp. 268-321 figs.; †*N. scapha* var. n. *indica* (p. 81) Eocene, India, JACOB & SASTRI Sci. & Culture, Calcutta 16 (2) 1950 pp. 80-82 figs.; †*N. nanum* sp. n. (p. 67) Miocene, Holland, VOORTHUYSEN Meded. Geol. Stichting Geol. Bureau, Heerlem, N.S. 4 1950 pp. 51-72 figs.; †*N. barleeanum* var. n. *inflatum* (p. 41) [for *N. barleeanum* (Williamson) Cushman 1939], Plio-Pleistocene, Holland, VOORTHUYSEN Meded. Geol. Stichting Geol. Bureau, Heerlem, N.S. 4 1950 pp. 31-50 figs.; †*N. browni* sp. n. (p. 37) Oligocene, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 26 1944 pp. 1-88 figs. (pp. 104-159).

Nonionella globosa sp. n. (p. 10) Japan Sea, ISHIWADA Bull. Geol. Surv. Japan 1 (4) 1950 pp. 1-13 [182-194] figs.

Notorotalia kerguelenensis sp. n. (p. 375) Kerguelen, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.

†*Nubecularia permiana* sp. n. (p. 61) Permian, Texas, JOHNSON J. Paleont. 24 (1) 1950 pp. 61-62 figs.

†*Nummulites* in the Eocene, Polish Carpathians, BIEDA 103; †*N. floridanus* Conrad, notes on types of, VAUGHAN 1186.

Oolina tasmanica sp. n. (p. 303) off Tasmania; *O. heteromorpha* sp. n. p. 304, Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.

†*Operculina campi* sp. n. (p. 285) Eocene, California, GRAHAM J. Paleont. **24** (3) 1950 pp. 282–286 figs.

†*Operculinoides gravelli* sp. n. (p. 44) Middle Eocene; *O. nassauensis* sp. n. (p. 47) Oligocene, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 26 1944 pp. 1–88 figs. (pp. 104–159).

†*Ophthalmidium rotula* sp. n. (p. 11) Jurassic, Montana, U.S.A., LALICKER Paleont. Contr. Univ. Kansas (Protozoa, Art. 2) pp. 3–20.

†*Orthophragmina* in the Eocene, Polish Carpathians, BIEDA 103.

†*Paleopolymorphina gemma* sp. n. (p. 18) Jurassic, Montana, U.S.A., LALICKER Paleont. Contr. Univ. Kansas (Protozoa, Art. 2) pp. 3–20 figs.; †*P. elecatoides* sp. n. (p. 59) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. **24** (1) 1950 pp. 39–60 figs.

†*Palmula toulmini, sigmoicosta* spp. n. (p. 35) Dano-Montian, Algeria, DAM & SIGAL Contr. Cushman Found. Foraminif. Res. **1** (1–2) 1950 pp. 31–37 figs.; †*P. woodi* sp. n. p. 684; *P. w. var. n. undulata* (p. 685) [both recorded as nom. nud. Z.R. for 1949 now validated], Paleocene, Egypt, NAKKADY J. Paleont. **24** (6) 1950 pp. 675–692 figs.

Parafissurina abnormis sp. n. (p. 314) Antarctic; *P. basicarinata* sp. n. (p. 314) Tasmania; *P. biannulata* sp. n. (p. 315) Tasmania; *P. magnilabiata* sp. n. (p. 316) Macquarie Island; *P. quadrata* sp. n. (p. 316) Tasmania; *P. scaphaeformis* sp. n. (p. 317) Tasmania; *P. curta, spinosa, subcarinata* spp. n. (p. 318) Antarctic; *P. subcircularis* sp. n. (p. 318) Tasmania; *P. sublata* sp. n. (p. 319) Tasmania; *P. subovata* sp. n. (p. 319) Antarctic, Kerguelan and Macquarie Island; *P. tasmanica, tricarinata* spp. n. (p. 319) Tasmania; *P. wiesneri* sp. n. (p. 320) Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 **5B** (6) 1950 pp. 233–392 figs.

†*Parafusulina armstrongi* sp. n. (p. 69) Permian, British Columbia, THOMPSON & VERVILLE Contr. Cushman Found. Foraminif. Res. **1** (3–4) pp. 67–70 figs.

Patellina antarctica sp. n. (p. 352) [for *P. corrugata* Chapman 1937, non Williamson], Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 **5B** (6) 1950 pp. 233–392; †*P. crista* sp. n. (p. 20) Jurassic, Montana, U.S.A., LALICKER Paleont. Contr. Univ. Kansas (Protozoa, Art. 2) pp. 3–20 figs.

Pelosinella gen. n. *bicaudata* sp. n. (p. 261) (genotype), Kerguelen, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 **5B** (5) 1950 pp. 233–392 figs.

Peneroplidae, re-grouping and systematics of the, HOFKER 539.

†*Phenacophragma* gen. n. *assurgens* sp. n. (p. 78) (genotype), Lower Cretaceous, Texas, APPLIN, LOEBLICH & TAPPAN J. Wash. Acad. Sci. **40** (3) 1950 pp. 75–79 figs.

Planispirinoides gen. n. (p. 287) (genotype *Miliolina bucculenta* Brady), South Seas and Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 **5B** (6) 1950 pp. 233–392 figs.

†*Planularia planotrochiformis* sp. n. Cretaceous, U.S.A., HUSSEY & McNULTY J. Paleont. **24** (4) 1950 pp. 472–473 figs.; †*P. palmerana* nom. n. [for *P. palmerae* Garrett 1942, preocc. van Bellen 1941] (p. 506) Miocene, Texas, GARRETT J. Paleont. **24** (4) 1950 p. 506.

†*Planulina cedarkeysensis* sp. n. (p. 35) Upper Cretaceous, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 20 1942 pp. 1–89 figs.

†*Plectogyra* gen. n. (p. 3) *plectogyra* sp. n. (genotype) (p. 3), Carboniferous, U.S.A., ZELLER Paleont. Contr. Univ. Kansas (Protozoa, Art. 4) 1950 pp. 1–23 figs.

Plectotrochammina gen. n. *subglobosa* sp. n. (p. 280) (genotype) Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 **5B** (6) 1950 pp. 233–392 figs.

†*Proteonina alexanderi* sp. n. (p. 5) Lower Cretaceous, Kansas, LOEBLICH & TAPPAN Paleont. Contr. Univ. Kansas (Protozoa, Art. 3) 1950 pp. 1–15 figs.

†*Protopeneroplis* gen. n. (p. 393) (genotype *Peneroplis senoniensis* Hofker), Cretaceous and Eocene,

HOFKER J.R. *Micr. Soc. Lond.* (3) 70 (4) 1950 pp. 388-396 figs.

Psammophax tasmanica sp. n. (p. 257) off Tasmania, PARR Rep. B.A.N.Z. Antarctic Res. Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.

†*Pseudoclavulina globulifera* sp. n. (p. 32) Dano-Montian, Algeria, DAM & SIGAL Contr. Cushman Found. Foraminif. Res. 1 (1-2) 1950 pp. 31-37 figs.

†*Pseudogaudryinella compacta* sp. n. (p. 33) Dano-Montian, Algeria, DAM & SIGAL Contr. Cushman Found. Foraminif. Res. 1 (1-2) 1950 pp. 31-37 figs.

†*Pseudodolicholina oliviformis* sp. n. (p. 58) Permian, Washington and British Columbia, THOMPSON, WHEELER & DANNER Contr. Cushman Found. Foraminif. Res. 1 (3-4) 1950 pp. 46-63 figs.

†*Pseudoglandulina multicostata* var. n. *semicostata* [for *Nodosaria* sp. Wicher, 1938] (p. 364), Lower Lias, Dorset, BARNARD Quart. J. Geol. Soc. Lond. 105 (3) 1950 pp. 347-391 figs.; †*P. traphera* sp. n. (p. 50) Jurassic, U.S.A., LOEBLICH & TAPPAN H. Paleont. 24 (1) 1950 pp. 39-60 figs.; †*P. alfaensis* sp. n. (p. 68) Cambrian, Argentine, RUSCONI Rev. Mus. Hist. nat. Mendoza 4 (3-4) 1950 pp. 63-70 figs.

†*Pseudophragmina* (*Proporocyclus*) *cedarkeysensis* sp. n. (p. 81) [for *P. (P.) zaragosensis* Cole 1942 non *Discocyclus* *zaragosensis* Vaughan 1929], Eocene; *P. (P.) hannai* sp. n. (p. 84) Middle Eocene, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 26 1944 pp. 1-88 figs. (pp. 104-159).

†*Pseudoplanulinella* gen. n. (p. 63) *hieroglyphica* sp. n. (genotype) (p. 64) var. n. *bartensteini* (p. 66) Oligocene, Germany, SIGAL Bull. Soc. géol. Fr. (5) 20 (1-3) 1950 pp. 63-71 figs.

†*Pseudopolymorphina calvertensis* sp. n. (p. 218) Miocene, Maryland, U.S.A., CUSHMAN Maryland Dept. Geol. Mines & Water Resour. Bull. 2 1948 pp. 213-267 figs.; †*P. avia*, *pera* spp. n. (p. 18) Jurassic, Montana, U.S.A., LALICKER Paleont. Contr. Univ. Kansas (Protozoa, Att. 2) pp. 3-20 figs.

†*Ptychocladia* Ulrich and Bassler now considered to belong to foraminifera; *P. agellus* varr. n. *tenuis*, *rotaliformis* (p. 295); *P. bassleri* sp. n. (p. 296) Carboniferous, U.S.A., ELIAS J. Paleont. 24 (3) 1950 pp. 287-306 figs.

†Ptychocladiidae fam. n. (p. 288) Palaeozoic, ELIAS J. Paleont. 24 (3) 1950 pp. 287-306 figs.

Pullenia subsphaerica sp. n. (p. 346) Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.; †*P. duplicata* Stainforth 1949 formally described and designated, Oligocene, Germany, STAINFORTH 1102.

†*Puteolus* gen. n. (p. 394) (genotype *Peneroplis proteus* d'Orbigny), Eocene to recent, HOFKER J.R. *Micr. Soc. Lond.* (3) 70 (4) 1950 pp. 388-396 figs.

Pyrgo subpisum sp. n. (p. 297); *P. wiesneri* sp. n. (p. 297) [for *Biloculina sarsi* Wiesner 1931, non Schlumberger]; *P. lateoralis* sp. n. (p. 298) Antarctic; *P. subglobulus* sp. n. (p. 298) off Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.

†*Pyrulina carebara* sp. n. (p. 13) Lower Cretaceous, Kansas, LOEBLICH & TAPPAN Paleont. Contr. Univ. Kansas (Protozoa, Art. 3) 1950 pp. 1-15 figs.

†*Queraltina* gen. n. (p. 73) *epistominoides* sp. n. (p. 74) (genotype); *Q. colomi* sp. n. (p. 77); *Q. hispanica* sp. n. (p. 78); *Q. crenata* sp. n. (p. 79), Eocene, Pyrenees, MARIE Bull. Soc. géol. Fr. (5) 20 (1-3) 1950 pp. 73-80 figs.

Quinqueloculina anguina var. n. *wiesneri* (p. 290) off Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.; †*Q. nanna* sp. n. (p. 10) Lower Cretaceous, Kansas, LOEBLICH & TAPPAN Paleont. Contr. Univ. Kansas (Protozoa, Art. 3) 1950 pp. 1-15 figs.; †*Q. singletoni* sp. n. (p. 72) Oligocene; *Q. ornithopetra* sp. n. (p. 73) Eocene, Australia, CRESPIN Contr. Cushman Found. Foraminif. Res. 1 (3-4) 1950 pp. 70-75 figs.

†*Ramulina fusiformis* sp. n. (p. 272) [for *Marginulina* cf. *Dentalina aculeata* Berthelin 1880; *R. globulifera* Chapman 1896, non Brady, and *R. sp.* Tappan 1940], Cretaceous, England, KHAN J.R. Micr. Soc. Lond. (3) 70 (3) 1950 pp. 268–279 figs.

†*Ramulinella esphyma* sp. n. (p. 59) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. 24 (1) 1950 pp. 39–60 figs.

Reophax brevis, davisii spp. n. (p. 265) off Tasmania and Antarctic respectively; *R. kerguelenensis* sp. n. Kerguelen; *R. pseudodistans* var. n. *tennis* (p. 268) off Tasmania; *R. subdentaliniformis* sp. n. (p. 269) [for *R. dentaliniformis* Earland 1934 (*partim*), non Brady], Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 5B (6) 1950 pp. 233–392 figs.; †*R. sundancensis* sp. n. (p. 41) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. 24 (1) 1950 pp. 39–60 figs.

†*Reusella aegyptiaca* sp. n. (p. 687) [recorded as nom. nud. Z.R. for 1949 now validated], Cretaceous, Egypt, NAKKADY J. Paleont. 24 (6) 1950 pp. 675–692 figs.

†*Rhenothyra* gen. n. *refrathiensis* sp. n. (p. 184) (genotype), Middle Devonian, Germany, BECKMANN N. Jahrb. Geol. Paläont. Stuttgart 6 1950 pp. 183–187 figs.

†*Robulus futabaensis* sp. n. (p. 159) Upper Cretaceous, Japan, ASANO Pacific Sci., Honolulu 4 (2) 1950 pp. 158–163 figs.; †*R. ellisana* sp. n. (p. 11); *R. bulla* sp. n. (p. 12) Jurassic, Montana, U.S.A., LALICKER Paleont. Contr. Univ. Kansas (Protozoa, Art. 2) pp. 3–70 figs.; †*R. mellahensis* sp. n. (p. 683) Cretaceous; *R. m.* var. n. *obesus* (p. 683) Eocene and Paleocene [both recorded as nom. nud. Z.R. for 1949 now validated], Egypt, NAKKADY J. Paleont. 24 (6) 1950 pp. 675–692 figs.; †*R. midwayensis* var. n. *virginianus* (p. 48), Eocene, Maryland and Virginia, U.S.A., SHIFFLETT Maryland Dept. Geol. Mines & Water Resour. Bull. 3 1948 pp. 1–93 figs.

†*Rotalia subcorpulenta* sp. n. (p. 278), Pliocene; *R. tenerrima* sp. n. (p. 278) Pleistocene, Oregon, BANDY J. Paleont. 24 (3) pp. 269–281 figs.;

†*R. subgranulosa, crookshankiana* spp. n. (p. 81) Eocene, India, JACOB & SASTRI Sci. & Culture, Calcutta 16 (2) 1950 pp. 80–82 figs.

†*Saracenaria italica* var. n. *politus* (p. 270) Cretaceous, England, KHAN J.R. Micr. Soc. Lond. (3) 70 (3) 1950 pp. 268–279 figs.; †*S. tunesiana* sp. n. (p. 36) Dano-Montian, Algeria and Tunisia, DAM & SIGAL Contr. Cushman Found. Foraminif. Res. 1 (1–2) 1950 pp. 31–37 figs.

†*Schellwienia japonica* var. n. *truncata, subobsoleta* var. n. *okuboensis* (p. 149) Carboniferous, Japan, OZAWA J. Fac. Sci. Imp. Univ. Tokyo (2) 2 1927 pp. 121–164 figs.

†*Schenckiella alabamensis* nom. n. (p. 51) [for *Listerella laevis* Cushman 1940 non *L. levis* Finlay 1939], Paleocene, U.S.A., CUSHMAN Cushman Lab. Foraminif. Res. Spec. Publ. 8A 1947 viii + 69 pp. figs.; *S. antarctica* sp. n. (p. 284) [for *Clavulina communis* Wiesner 1931, Earland 1933, and Chapman and Parr 1937, non d'Orbigny], Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 5B (6) 1950 pp. 233–392 figs.

†*Schwagerina caurus, andersoni* [for *Leeina*? sp. Anderson 1941, and *Schwagerina* sp. Thompson and Wheeler 1942] spp. n. (p. 55), Permian, Washington and British Columbia, THOMPSON, WHEELER & DANNER Contr. Cushman Found. Foraminif. Res. 1 (3–4) 1950 pp. 46–63 figs.; †*S. carbonica* sp. n. (p. 162) Carboniferous, Russia, NOVIK Sci. Mag. Geol. Catheder Dnepropetr. 1927 pp. 155–167 figs.

†*Siderolites olaztiensis* newly described, RUIZ DE GAONA 977.

Sigmoilina sabulosa sp. n. (p. 292) off Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929–31 5B (6) 1950 pp. 233–392 figs.

†*Sigmomorphina marylandica* sp. n. (p. 219) Miocene, Maryland, U.S.A., CUSHMAN Maryland Dept. Geol. Mines & Water Resour. Bull. 2 1948 pp. 213–287 figs.; †*S. floridana* sp. n. (p. 26) Eocene, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 20 1942 pp. 1–89 figs.; †*S. nevifera* sp. n.

(p. 298) [for *Pyrulina albatrossi* Cushman and Cahill], Miocene, Maryland, U.S.A., DORSEY Maryland Dept. Geol. Mines & Water Resour. Bull. 2 1948 pp. 268-321 figs.

†*Silicosigmoilina futabaensis* sp. n. (p. 159) Upper Cretaceous, Japan, ASANO Pacific Sci., Honolulu 4 (2) 1950 pp. 158-163 figs.

†*Siphogenerinoides oveyi* sp. n. (p. 686) var. n. *compressa* (p. 687) [both recorded as nom. nud. Z.R. for 1949 now validated], Cretaceous, Egypt, NAKKADY J. Paleont. 24 (6) 1950 pp. 675-692 figs.

†*Siphoglobulina* gen. n. (p. 332), *siphonifera* sp. n. (p. 333) (genotype), Miocene, Victoria and off Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.

†*Siphonina nassauensis* sp. n. (p. 54) Oligocene, Florida, COLE Geol. Bull. Florida Geol. Surv. No. 26 1944 pp. 1-88 figs. (pp. 104-159).

Siphovigerina gen. n. (p. 342) (genotype *Uvigerina porrecta* Brady var. *fimbriata* Sidebottom), PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.

†*Spirillina ticinensis* sp. n. (p. 171) Lias, Switzerland, SCHWEIZHAUSER Verh. Schweiz. naturf. Ges. 130 1950 p. 171; †*S. amphelicta* sp. n. (p. 60) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. 24 (1) 1950 pp. 39-60 figs.; *S. pectinomarginata* var. n. *aspinosa* (p. 348); *S. multispira* sp. n. (p. 349) Tasmania; *S. obconica* var. n. *dorsoserrata* (p. 350); *S. radiosa* sp. n. (p. 350) Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.

Spiroloculina pellucida sp. n. (p. 7) Red Sea, SAID Contr. Cushman Found. Foraminif. Res. 1 (1-2) 1950 pp. 4-9 figs.; *S. subimpressa* sp. n. (p. 291) off Tasmania and East Coast of Australia; *S. sublimata* sp. n. (p. 291), off Western Australia; *S. angusteoralis* sp. n. (p. 292) Shore sand, Victoria, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (1) 1950 pp. 233-392 figs.

†*Spiroplectammina exilis* sp. n. (p. 275) [for *S. gracilis* Cushman & Cahill 1933, non Von Muenster];

S. spinosa sp. n. (p. 276), Miocene, Maryland, U.S.A., DORSEY Maryland Dept. Geol. Mines & Water Resour. Bull. 2 1948 pp. 268-321 figs.; †*S. ezoana* sp. n. (p. 18) Cretaceous, Hokkaido, ASANO Short Pap. Inst. Geol. Paleont. Tôhoku Univ. No. 2 1950 pp. 13-22 figs.; †*S. plummerae* nom. n. (p. 226) [for *Textularia carinata* var. *expansa* Plummer 1926, preocc. *S. expansa* Le Roy (= *T. c.* var. *e. fide* Le Roy)], Eocene, Maryland, U.S.A., CUSHMAN Maryland Dept. Geol. Mines & Water Resour. Bull. 2 1948 pp. 213-267 figs.

Spirotextularia obesa sp. n. (p. 266) off Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.

Sporadogenerina proteiformis (Flint) (original designation) to include *S. flintii* Cushman (genotype) [originally described as *Ramulina proteiformis* Flint 1899 (*partim*)], Atlantic, FRIZZELL 385.

†*Stensiöina esnehensis* sp. n. (p. 689) [recorded as nom. nud. Z.R. for 1949 now validated], Paleocene, Egypt, NAKKADY J. Paleont. 24 (6) 1950 pp. 675-692 figs.

†*Stichocibicides cerviculus* sp. n. (p. 76) Virginia, U.S.A., SHIFFLETT Maryland Dept. Geol. Mines & Water Resour. Bull. 3 1948 pp. 1-93 figs.

†*Stomatostoecha* gen. n. *plummerae* sp. n. (p. 76) (genotype), Lower Cretaceous, Texas, APPLIN, LOEBLICH & TAPPAN J. Wash. Acad. Sci. 40 (3) 1950 pp. 75-79 figs.

†*Streblus beccarii* var. n. *globosus* (p. 68) Plio-Pleistocene, Holland, VOORTHUYSEN Meded. Geol. Stichting Geol. Bureau, Heerlem, N.S. 4 1950 pp. 51-72 figs.; †*S. beccarii* var. n. *pseudotepidus* (p. 45) Plio-Pleistocene, Holland, VOORTHUYSEN Meded. Geol. Stichting Geol. Bureau, Heerlem, N.S. 24 1950 pp. 31-50 figs.

Textularia australis sp. n. (p. 275) off Western Australia, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.; †*T. obliqua*, *ultima-inflata* spp. n. (p. 279) Miocene, Maryland, U.S.A., DORSEY Maryland Dept. Geol. Mines & Water

Resour. Bull. 2 1948 pp. 268-321 figs.; †*T. eggeri* sp. n. (p. 116) [for *T. sp.* Egger 1909], Cretaceous, Bavaria, FÖRSTER & OEBBEKE Geognost. Jahres. 35 1922 pp. 83-160 figs.; *T. ornatissima* sp. n. (p. 4) Red Sea, SAID Contr. Cushman Found. Foraminif. Res. 1 (1-2) 1950 pp. 4-9 figs.

†*Textulariella cushmani* sp. n. (p. 33) Dano-Montian, Algeria, DAM & SIGAL Contr. Cushman Found. Foraminif. Res. 1 (1-2) 1950 pp. 31-37 figs.

Tholosina spiculifera sp. n. (p. 262) Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-382 figs.

†*Ticinella* subgen. n. (of *Globotruncana* (p. 600) (subgenotype *Anomalina roberti* Gandolfi), Cretaceous, REICHEL Ecl. geol. helv. 42 (2) 1949 [1950] pp. 596-617 figs.

†*Tremastegina* gen. n. [nom. nud.] (p. 166) Eocene, Barbados, BÖNNI-MANN Verh. schweiz. naturf. Ges. 130 1950 p. 166.

†*Tribrachia reussi* sp. n. (p. 121) [for *Frondicularia cordai* var. *tribrachia* Reuss 1846 (*partim*) and *F. inversa* Reuss fide Beissel 1891, and *F. c. forma t.* Reuss fide Franke 1829]; *T. schubertii* sp. n. (p. 122); *T. westfalica* sp. n. (p. 123) [for *Frondicularia turgida* Reuss 1846, *partim* (montrous form)]; *T. subcretacea* sp. n. (p. 125) Cretaceous, Germany, BARTENSTEIN & BRAND Senckenbergiana, Frankfurt 31 (1-2) 1950 pp. 121-126 figs.; †*T. inelegans* sp. n. (p. 16) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Washington Acad. Sci. 40 (1) 1950 pp. 5-19 figs.; †*T. Schubert* in Cretaceous, Germany, BARTENSTEIN & BRAND 68.

Triloculina striatula, *lamellidens*, spp. n. (p. 294) off Western Australia and Tasmania respectively; *T. subvalvularis* sp. n. (p. 296) [for *Miliolina valvularis* Brady 1884, non *T. valvularis* Reuss], off New Zealand and Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.

†*Triloclinella* gen. n. *obliquinodus* sp. n. (genotype) (p. 90) Lower Pleistocene, California, RICCIO Contr.

Cushman Found. Foraminif. Res. 1 (3-4) 1950 p. 90 figs.

†*Tristix gaultina* sp. n. (p. 270) Cretaceous, England, KHAN J.R. Micr. Soc. Lond. (3) 70 (3) 1950 pp. 268-279 figs.; †*T. nitida* sp. n. [for *Dentalinopsis oolithica*? (Terquem) Wickenden, 1933] (p. 13) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Washington Acad. Sci. 40 (1) 1950 pp. 5-19 figs.; †*T. alcima* sp. n. (p. 52); *T. reesidei* sp. n. (p. 53); Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. 24 (1) 1950 pp. 39-60 figs.

†*Triticites provoensis* sp. n. (p. 446); *T. grangerensis* sp. n. (p. 451) Pennsylvanian, Utah, THOMPSON, VERVILLE & BISSELL J. Paleont. 24 (4) 1950 pp. 430-465 figs.

Trochammina rugosa, *appressa* spp. n. (p. 277) Antarctic and off Tasmania respectively; *T. spiculolega*, *gaboensis*, *sorosa* spp. n. (p. 278) off Tasmania (*T. gaboensis* also off Gabo Is.); *T. tasmanica* sp. n. (p. 279) off Tasmania; *T. wiesneri* sp. n. (p. 279) [for *T. inflata* Wiesner 1931, non *Nautilus inflatus* Montagu], Antarctic; *T. antarctica* sp. n. (p. 280), Antarctic, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.; †*T. hisanohamaensis* sp. n. (p. 159) Upper Cretaceous, Japan, ASANO Pacific Sci., Honolulu 4 (2) 1950 pp. 158-163 figs.; *T. japonica* sp. n. (p. 9) Japan Sea, ISHIWADA Bull. Geol. Surv. Japan 1 (4) 1950 pp. 1-13 [182-194] figs.; †*T. callima* sp. n. (p. 10); *T. lattai* sp. n. (p. 11) Lower Cretaceous, Kansas, LOEBLICH & TAPPAN Paleont. Contr. Univ. Kansas (Protozoa, Art. 3) 1950 pp. 1-15 figs.; †*T. lathetica* sp. n. (p. 43) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. 24 (1) 1950 pp. 39-60 figs.

Turrispirillina depressa sp. n. (p. 351) Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 5B (6) 1950 pp. 233-392 figs.; †*T. spirella* sp. n. [for *Cornuspira orbicula* (Terquem & Berthelin) Sandidge 1933] (p. 16) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Washington Acad. Sci. 40 (1) 1950 pp. 5-19 figs.

†*Uhlagina* gen. n. (p. 71) *boninensis* sp. n. (p. 72) Eocene, Japan and

West Galicia, YABE & HANZAWA Jap. J. Geol. Geogr. **1** (2) 1922 pp. 71-75 figs.

†*Uvigerina calvertensis* sp. n. (p. 222) Miocene, Maryland, U.S.A., CUSHMAN Maryland Dept. Geol. Mines & Water Resour. Bull. 2 1948 pp. 213-267 figs.; †*U. exilis* sp. n. (p. 337) Eocene, Maryland, U.S.A., CUSHMAN Maryland Dept. Geol. Mines & Water Resour. Bull. 2 1948 pp. 213-267 figs.; †*U. directa* sp. n. (p. 308) [for *U. cf. pigmea* Cushman 1930], Miocene, Maryland, U.S.A., DORSEY Maryland Dept. Geol. Mines & Water Resour. Bull. 2 1948 pp. 268-321 figs.; *U. bassensis* sp. n. (p. 340) [for *U. pygmaea* Chapman 1915, non *U. pigmea* d'Orbigny], Tasmania, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 **5B** (6) 1950 pp. 233-392 figs.; †*U. tenuipustulata* sp. n. (p. 60) Miocene, Holland, VOORTHUYSEN Meded. Geol. Stichting Geol. Bureau, Heerlem, N.S. **4** 1950 pp. 51-72 figs.

Vaginulina subelegans sp. n. (p. 326) [for *V. elegans* Cushman 1932 etc., non d'Orbigny]; *V. inflata* sp. n. p. 327, Antarctic, PARR Rep. R.A.N.Z. Antarctic Exped. 1929-31 **5B** (6) 1950 pp. 233-352 figs.; *V. exilis* sp. n. (p. 327) Pacific, CUSHMAN & McCULLOCH Allan Hancock Pacific Exped. **6** (6) 1950 pp. 295-364 figs.; †*V. marieri* sp. n. (p. 270); *V. pseudodiscors* sp. n. (p. 271) var. n. *semiornata* (p. 272) Cretaceous, England, KHAN J.R. Micr. Soc. Lond. (3) **70** (3) 1950 pp. 268-279 figs.; †*V. mecyra* sp. n. (p. 13) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Washington Acad. Sci. **40** (1) 1950 pp. 5-19 figs.; †*V. ischyra, lechriosa* sp. n. (p. 56) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. **24** (1) 1950 pp. 39-60 figs.; †*V. barba, lancea* spp. n. (p. 16); *V. pala, cetra* spp. n. (p. 17) Jurassic, Montana, U.S.A., LALICKER Paleont. Contr. Univ. Kansas (Protozoa, Art. 2) pp. 3-20 figs.

Vaginulinopsis tasmanica, procelata spp. n. (p. 324) Tasmania; *V. sublegumen* sp. n. (p. 325) [for *Vaginulina legumen* Brady 1884, non *Nautilus legumen* Linn.; and *V. l.* Wiesner 1931], Antarctic,

PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 **5B** (6) 1950 pp. 233-392 figs.; †*V. pseudoscitula* sp. n. (p. 35) Dano-Montian, Algeria, DAM & SIGAL Contr. Cushman Found. Foraminif. Res. **1** (1-2) 1950 pp. 31-37 figs.; †*V. eritheles* sp. n. [for *Marginulina* sp. ? Wickenden, 1933], (p. 9) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Washington Acad. Sci. **40** (1) 1950 pp. 5-19 figs.; †*V. ectypa, enodis* spp. n. (p. 46); *V. epicharis* sp. n. (p. 47), Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. **24** (1) 1950 pp. 39-60 figs.

Valvulineria polita sp. n. (p. 359), Tasmania; *V. porifera* sp. n. (p. 359) off Western Australia, PARR Rep. B.A.N.Z. Antarctic Exped. 1929-31 **5B** (6) 1950 pp. 233-392 figs.; †*V. oveyi* sp. n. (p. 274); *V. parva* sp. n. (p. 275) [for *Placentula nitida* Berthelin 1880, non Reuss, non *Valvulineria gracillima* ten Dam 1947], Cretaceous, England, KHAN J.R. Micr. Soc. Lond. (3) **70** (3) 1950 pp. 268-279 figs.; †*V. esnehensis* sp. n. (p. 689) [recorded as nom. nud. Z.R. for 1949 now validated], Paleocene, Egypt, NAKKADY J. Paleont. **24** (6) 1950 pp. 675-692 figs.

†Valvulinidae, fossil and recent, CUSHMAN 257.

†*Verbeckina parvula* sp. n. (p. 38) Permian, Iran, DOUGLAS Palaeont. indica, N.S. **22** (7) 1950 pp. 1-58 figs.; †*V. americana* sp. n. (p. 57) Permian, Washington and British Columbia, THOMPSON, WHEELER & DANNER Contr. Cushman Found. Foraminif. Res. **1** (3-4) 1950 pp. 46-63 figs.

†*Verneuilina movina* sp. n. (p. 130) Cretaceous, Italy, CITA Riv. ital. Paleont. **55** (4) 1949 pp. 121-134 figs.; †*V. luxorensis* sp. n. (p. 683) Paleocene, Egypt, NAKKADY J. Paleont. **24** (6) 1950 pp. 675-692 figs.; †*V. subeocenica* sp. n. (p. 12) Eocene and Paleocene, Germany, WICK Abh. senckenb. naturf. Ges. No. 468 1943 pp. 1-40 figs.

†*Verneulinoides kansasensis* sp. n. (p. 10) Lower Cretaceous, Kansas, LOEBLICH & TAPPAN Paleont. Contr. Univ. Kansas (Protozoa, Art. 3) 1950 pp. 1-15 figs.; †*V. tryphera* sp. n.

p. 42) Jurassic, U.S.A., LOEBLICH & TAPPAN J. Paleont. **24** (1) 1950 pp. 39-60 figs.

†*Virgulina rotundata* sp. n. (p. 337) [for *V. subsquamosa* Brady 1884, non Egger], Tasmania, PARR Rep. 3.A.N.Z. Antarctic Exped. 1929-31 **5B** (6) 1950 pp. 233-392 figs.; †*V. viscidus* sp. n. (p. 273) Cretaceous, England, KHAN J.R. Micr. Soc. Lond. (3) **70** (3) 1950 pp. 268-279 figs.

†*Volvotextularia* gen. n. *polymorpha* sp. n. (p. 39) Carboniferous, Morocco, FERMIER Notes & Mem. Serv. Carte géol. Maroc **13** 1950 pp. 29-40 figs.

†*Vulvulina gracillima* sp. n. (p. 31) Dano-Montian, Algeria, DAM & SIGAL Contr. Cushman Found. Foraminif. Res. **1** (1-2) 1950 pp. 31-37 figs.

†*Waeringella bailkeyi* sp. n. (p. 438) Pennsylvanian, Utah, THOMPSON, VERVILLE & BISSELL J. Paleont. **24** (4) 1950 pp. 430-465 figs.

†*Yabeina* ? sp. n. [no name given], Permian [no definite locality], THOMPSON, WHEELER & DANNER **1163**.

†*Zeauvigerina vianica* sp. n. (p. 293) Eocene; *Z. childi* sp. n. (p. 295) Oligocene, S.W. Iran, THOMAS Ann. Mag. nat. Hist. (12) **3** 1950 pp. 287-301 figs.

(d) Heliozoa

[No record]

(e) Radiolaria

†Late Palaeozoic to Triassic or early Jurassic radiolaria, Japan, ICHIKAWA **565**.

†*Carpospaera pulchra, mitakeana* spp. n. (p. 293) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo Sect. II, Geol. etc. **7** (3-5) 1950 pp. 281-315 figs.

†*Cenellipsis nipponica, subelongata* spp. n. (p. 295) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. **7** (3-5) 1950 pp. 281-315 figs.; †*C. ? mirabilis* sp. n. (p. 296) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo Sect. II, Geol. etc. **7** (3-5) 1950 pp. 281-315 figs.

†*Conosphaera nipponica* sp. n. (p. 291); *C. magna* sp. n. (p. 292) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. **7** (3-3) 1950 pp. 281-315 figs.

†*Cryptocapsa gregaria* sp. n. (p. 305) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. **7** (3-5) 1950 pp. 281-315 figs.

†*Dicolocapsa kimurai* sp. n. (p. 304) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. **7** (3-5) 1950 pp. 281-315 figs.

†*Dictyastrum robustum* sp. n. (p. 302) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. **7** (3-5) 1950 pp. 281-315 figs.

†*Dictyomitra extensa, fragosa* spp. n. (p. 309); *D. brevissima, longicephala* spp. n. (p. 310) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. **7** (3-5) 1950 pp. 281-315 figs.

†*Ellipsoxiphus tenuispinosus* sp. n. (p. 298) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc., **7** (3-5) 1950 pp. 281-315 figs.

†*Halidictyum* gen. n. (p. 300) *haeckelii* sp. n. (p. 301) (genotype) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. **7** (3-5) 1950 pp. 281-315 figs.

†*Haxastylus bellaturus* sp. n. (p. 295) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. **7** (3-5) 1950 pp. 281-315 figs.

†*Lithapium rigidum* sp. n. (p. 297) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. **7** (3-5) 1950 pp. 281-315 figs.

†*Lithocampe pentagonale* sp. n. (p. 312) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. **7** (3-5) 1950 pp. 281-315 figs.

†*Lithocorys* gen. n. *nipponica* sp. n. (p. 311) (genotype); *L. pseudocreteacea* sp. n. (p. 311) [age not specified],

Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc., 7 (3-5) 1950 pp. 281-315 figs.

†*Meyenella* **gen. n.** (p. 211) *meiyeni* **sp. n.** (genotype) [for *Sphaerozoum* auct.] (p. 211); *M. notula* **sp. n.** (p. 213); ?*M. hensoni* **sp. n.** (p. 213) Jurassic or Cretaceous, Oman, DAVIS Proc. Geol. Assoc., Lond. 61 (3) 1950 pp. 206-217 figs.

†*Palaeacanthus* **gen. n.** (p. 214) *spinosus* **sp. n.** (genotype), Triassic to ? Cretaceous, Oman and elsewhere, DAVIS, Proc. Geol. Assoc. Lond. 61 (3) 1950 pp. 206-217 figs.

†*Perichlamydidium tenuis* **sp. n.** (p. 300) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc., 7 (3-5) 1950 pp. 281-315 figs.

†*Porodiscus* (*Trematodiscus*) *yaharai* **sp. n.** (p. 298); *P. (T.) minor* **sp. n.**; *P. (Discospira) sublaevis* **sp. n.** (p. 299); *P. (Porodiscus) subgen. n.) trigonus* **sp. n.** (p. 299) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. 7 (3-5) 1950 pp. 281-315 figs.

†*Rhopalastrum kobayashii* **sp. n.** (p. 302); *R. flabellum* **sp. n.** (p. 303) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. 7 (3-5) 1950 pp. 281-315 figs.

†*Spongurus splendidus* **sp. n.** (p. 298) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. 7 (3-5) 1950 pp. 281-315 figs.

†*Staurodoras hawasinaensis, lehneri* **spp. n.** (p. 210) Jurassic or Cretaceous, Oman, DAVIS, Proc. geol. Assoc., London 61 (3) 1950 pp. 206-217 figs.

†*Stichocapsa modesta, asiatica* **spp. n.** (p. 313); *S. subjucunda* **sp. n.** (p. 314); *S. oblongula* **subsp. n.** *minuta* (p. 314); *S. cepula* **subsp. n.** *circula* (p. 315) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. 7 (3-5) 1950 pp. 281-315 figs.

Theocapsa parva **sp. n.** (p. 306) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. 7 (3-5) 1950 pp. 281-315 figs.

†*Theocorys mitakensis* **sp. n.** (p. 305) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. 7 (3-5) 1950 pp. 281-315 figs.

†*Tricolocapsa (Tricolocapsium) rotundata, pseudopilula* **spp. n.** (p. 306); *T. (T.) elegans* **sp. n.**, *T. (Tricolocapsula) decrescens* **sp. n.** (p. 307) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. 7 (3-5) 1950 pp. 281-315 figs.

†*Xiphosphaera huzimotoi* **sp. n.** (p. 294) [age not specified], Japan, ICHIKAWA J. Fac. Sci. Univ. Tokyo, Sect. II, Geol. etc. 7 (3-5) 1950 pp. 281-315 figs.

2. MASTIGOPHORA

Evolution and systematics of flagellates in termites, KIRBY 634.

A. PHYTOMASTIGINA

Systematics of freshwater Phytomastigina, HUBER-PESTALOZZI 553, 554.

Monomastiginae **subcl. n.**, Monomastigaceae **fam. n.** (p. 2), HUBER-PESTALOZZI Binnegevässer, Stuttgart 16 (3) 1950 pp. 1-310 figs.

(a) Chrysomonadida

State of the systematics of Coccolithophoridae, BERNARD 100.

Silicoflagellata: general systematics, DEFLANDRE 276.

†Cretaceous and Tertiary Silicoflagellidae, DEFLANDRE 283.

Chromulina psammobia **sp. n.** (p. 208) marine, FAURÉ-FREMIET Bull. biol. France-Belg. 84 (2) 1950 pp. 207-214 figs.

†*Corbisema rüsti* **sp. n.** (p. 136) [for *Dictyocha speculum*? Rüst 1888] Cretaceous, Germany, DEFLANDRE Microscopie, Paris 2 (3) 1950 pp. 117-142 figs.; †*C. bimucronata* **sp. n.** (p. 191); *C. spinosa* **sp. n.** (p. 193), ?Miocene, Barbados, DEFLANDRE Microscopie, Paris 2 (4) 1950 pp. 191-210 figs.

Cycloneis erinus sp. n. (p. 304) sphagnum swamp, England, JANE Proc. Linn. Soc. Lond. (152) 1939-40 (3) 1940 pp. 298-309 figs.

†*Dictyocha frenguelli* sp. n. (p. 194) [for *D. fibula* Ehr. forma, Deflandre 1940] Eocene, U.S.S.R.; *D. mutabilis* sp. n. (p. 197) [for *D. rhombica* Deflandre 1941, non Lemmermann née Schulz], Miocene, California, *D. macilenta* sp. n. (p. 197) [for *Schaninslandii* (Lemm) Frenguelli 1940, non alior, and ?*Distephanus cruz* var. *mesophthalmus* (Eht.) Lemmermann partim], Miocene, Hungary; *D. retrospira* sp. n. (p. 200); *D. japonica* sp. n. (p. 201) Miocene, Japan, DEFLANDRE Microscopie, Paris 2 (4) 1950 pp. 191-210 figs.

Kephyrion valkanovi sp. n. (?) (p. 72) brackish water lake, Bulgaria, HUBER-PESTALOZZI Binnegevässer, Stuttgart 16 2 (1) 1941 pp. 1-365 figs.

†*Micrantholithus* gen. n. (p. 1158) flos (genotype), *vesper* spp. n., Eocene, France, DEFLANDRE C.R. Acad. Sci. Paris 231 (21) 1950 pp. 1156-1158 figs.

†*Naviculopsis rubusta* sp. n. (p. 202) Eocene, U.S.S.R.; *N. foliacea* sp. n. (p. 204) [for *Dictyocha* (?) *biapiculata* Lemm. sec. Hanna non alior and *D.* (?) b. Lemm. see Clark and Campbell non alior], Eocene, California, DEFLANDRE Microscopie, Paris 2 (4) 1950 pp. 191-210 figs.

Synochromonas elaeochrus sp. n. (p. 307) stagnant water, England, JANE Proc. Linn. Soc. Lond. (152) 1939-40 (3) 1940 pp. 298-309 figs.

Synura bioreti sp. n. (p. 141) freshwater, France, HUBER-PESTALOZZI Binnegevässer, Stuttgart 16 (2) (1) 1942 pp. 1-365 figs.

Vallacertidae fam. n. (p. 128), DEFLANDRE Microscopie, Paris 2 (3) 1950 pp. 117-142 figs.

(b) Cryptomonadida

Cryptomonas buetschlii nom n. (p. 66) [for *Chilomonas paramaecium* Ehrenberg fide Bütschli (coloured form)], in puddle, HUBER-PESTALOZZI Binnegevässer, Stuttgart 16 (3) 1950 pp. 1-310 figs.

(c) Dinoflagellata

Listed dinoflagellates of the Black Sea, STROIKINA 1116.

Dinoflagellates of Soviet Union, KISELEV 637.

New or rare pectinians from the south-equatorial Pacific, RAMPI 914.

Amphidium turicense sp. n. (p. 104) planktonic in Lake Zürich; *A. geitleri* nom. n. (p. 105) [for *Gymnodinium amphibinioides* Geitler, and *A. amphidinioides* Geitler fide Schiller], Austria and Switzerland, HUBER-PESTALOZZI Binnegevässer, Stuttgart 16 (3) 1950 pp. 1-310 figs.

Cystodiniaceae fam. n. (p. 287), HUBER-PESTALOZZI Binnegevässer, Stuttgart 16 (3) 1950 pp. 1-310 figs.

Peridinium tainingi sp. n. (p. 7), equatorial Pacific, RAMPI Bull. Inst. océanogr. Monaco, No. 974 1950 pp. 1-12 figs.

(d) Euglenoidida

Dinophysis spinosa sp. n. (p. 3) New Zealand area, RAMPI Bull. Inst. océanogr. Monaco, No. 974 1950 pp. 1-12 figs.

Histioneis minuscula, *oceanica* spp. n. (p. 4) equatorial Pacific, RAMPI Bull. Inst. océanogr. Monaco, No. 974 1950 pp. 1-12 figs.

Ornithocercus bilobatus sp. n. (p. 3) Fiji area, RAMPI Bull. Inst. océanogr. Monaco, No. 974 1950 pp. 1-12 figs.

Paraperanema gen. n. *longicauda* sp. n. (p. 369) pond water, Iowa, U.S.A., SHAWHAN & JAHN Proc. Iowa Acad. Sci. 54 1947 pp. 369-371 figs.

Pavillardinium pacificum sp. n. (p. 10) near New Zealand coasts, RAMPI Bull. Inst. océanogr. Monaco, No. 974 1950 pp. 1-12 figs.

Telonema placed in fam. Cyathomonadidae, probably belonging to the Euglenoidina, HOLLANDE & CACHON 543.

Trachelomonas sp. n. [no name given], from pond, Holland, MIDDELHOEK 775; †*T.* in the Miocene, Italy, SILVERTRI 1067; *T.* spp. found in Holland, MIDDELHOEK 776.

(e) **Phytomonadida**

Polytoma microsphaericum sp. n. (p. 545); *P. pseudotetraclare* nom. n. (p. 546) [for *P. tetrolare* var. *astigmatum* Ondratschek 1941]; *P. palmelloides* sp. n. (p. 547); *P. macrosphaericum* sp. n. (p. 548); *P. uliginosum*, *cogamum* spp. n. (p. 549) in culture from Prague, MOEWUS Arch. Mikrobiol. Berlin **14** (4) 1950 pp. 542-553 figs.

B. ZOOMASTIGINA

(f) **Protomonadida**

Bodo lacertae var. n. *ophidia* (p. 620) from various S. African snakes, FANTHAM & PORTER Proc. Zool. Soc. Lond. **120** 1950 pp. 599-646 figs.

Caviomonas gen. n. (p. 385) *mobilis* sp. n. from guineapig, *Cavia porcella* U.S.A., NIE J. Morph. **86** 1950 pp. 381-494 figs.

Chilomitus conexus sp. n. from guinea-pig, *Cavia porcella*, U.S.A., NIE J. Morph. **86** 1950 pp. 381-494 figs.

Crithidia familiaris sp. n. (p. 327) from bug *Cenaëus carnifex* S. Africa, GIBBS Parasitology **40** 1950 pp. 322-327 figs.

Embadomonas: synonym of *Retortamonas* (q.v.).

Leishmania donovani subspp. n. *donovani*, *tropica*, *brasiliensis*: HOARE Trop. Dis. Bull. **47** 1950 pp. 828-829 [Review of MOHIUDDIN 782]; *L.* differentiation of spp. infecting man, KIRK 636.

Leptomonas ludwigi sp. n. (p. 5) from larvae of *Tipula abdominalis* Czechoslovakia, KRAMAŘ Vestn. Českosl. zool. Společn. **14** 1950 pp. 55-76 figs.

Palisporomonadidae fam. n. (p. 154) for *Palisporomonas* gen. n. (q.v.), SAEDELER Ann. Soc. R. Zool. Belg. **77** 1947 pp. 90-165 figs.

Palisporomonas gen. n. (p. 155) *apodinium* sp. n. associated with marine diatoms, Mediterranean, SAEDELER Ann. Soc. R. Zool. Belg. **77** 1947 pp. 90-165 figs.

Prowazekella harenii sp. n. (pp. 156, 165) from guineapig *Cavia cutleri* India, RAY Proc. Indian Sci. Congr. **36th** (3) 1949 p. 156 and Proc. Zool. Soc. Bengal **3** 1950 pp. 163-167 figs.

Retortamonas: status of genus (including *Embadomonas*) and relationship to *Chilomastix*; *R. mitrula* sp. n. (p. 42) from wallaroo *Macropus robustus*, KIRBY & HONIGBERG Univ. Calif. Publ. Zool. **55** 1950 pp. 35-66 figs.

Schizotrypanum [= *Trypanosoma*] *mexicanii* sp. n. (p. 245) from Mexican rat, PERRIN Medicina **30** 1950 pp. 245-247.

Trypanophis sagittae nom. n. for *Trypanoplasma sagittae* Hovasse 1924, ROSE & HAMON 962.

Trypanosoma pipientis sp. n. (p. 24) from frog *Rana pipiens* U.S.A., DIAMOND J. Parasit. **36** (6: Sec. 2) 1950 p. 24; *T. sebae* sp. n. (p. 618) from *Python sebae*; *T. psammophis* sp. n. (p. 619) from *Psammophis sibilans*, S. Africa, FANTHAM & PORTER Proc. Zool. Soc. Lond. **120** 1950 pp. 599-646 figs.; *T. evansi*: production of new akinetoplastic strains and races by mutation, and the origin of related American species, HOARE 530, 531.

(g) **Trichomonadida**

Achemon gen. n. (p. 39) *platycaryon* sp. n. from termite *Cryptotermes lamanianus*, GRASSÉ & HOLLANDE Ann. Sci. nat., Paris (11) **12** 1950 pp. 25-64 figs.

Devescovina dubosqui sp. n. (p. 36) from termites, GRASSÉ & HOLLANDE Ann. Sci. nat., Paris (11) **12** 1950 pp. 25-64 figs.

Evemonia gen. n. (p. 40) for *Pseudo-devescovina ramosa* and *P. punctata*, GRASSÉ & HOLLANDE Ann. Sci. nat., Paris (11) **12** 1950 pp. 25-64 figs.

Hexamastix caviae sp. n., *H. robustus* sp. n. from guinea-pig, *Cavia porcella*, U.S.A., NIE J. Morph. **86** 1950 pp. 381-494 figs.

Kirbynia gen. n. (p. 35) for *Foaina pectinata* Kirby 1942, GRASSÉ & HOLLANDE Ann. Sci. nat., Paris (11) **12** 1950 pp. 25-64 figs.

Macrotrichomonadinae subfam. n. (p. 52) of fam. *Trichomonadidae* for *Macrotrichomonas* Grassi 1917, GRASSÉ & HOLLANDE Ann. Sci. nat., Paris (11) **12** 1950 pp. 25-64 figs.

Macrotrichomonas hirsuta sp. n. (p. 54) from termites, Madeira, GRASSÉ & HOLLANDE Ann. Sci. nat., Paris (11) **12** 1950 pp. 25-64 figs.

Metastephanonympha karnataki sp. n. (p. 123) from gut of millipede, *Thyropygus*, India, FROILANO DE MELLO & UTTANGI Current Sci., Bangalore **19** 1950 pp. 122-123 figs.

Monocercomonas ophidiaie sp. n. (p. 626) from *Boaedon lineatum*, S. Africa, FANTHAM & PORTER Proc. Zool. Soc. Lond. **120** 1950 pp. 599-646 figs.; *M. pistillum* sp. n., *M. minuta* sp. n. from guinea-pig, *Cavia porcella*, U.S.A., NIE J. Morph. **86** 1950 pp. 381-494 figs.

Monocercomonoides nimiei sp. n. (pp. 155, 164) from guinea-pig *Cavia cutleri* India, RAY Proc. Indian Sci. Congr. **36th** (3) 1949 p. 155 and Proc. Zool. Soc. Bengal **3** 1950 pp. 163-167 figs.; *M. quadrifunilis* sp. n., *M. wenrichi* sp. n., *M. exilis* sp. n. from guinea-pig, *Cavia porcella*, U.S.A., NIE J. Morph. **86** 1950 pp. 381-494 figs.

Stellaria gen. n. (p. 40) for *Foaina nucleoflexa* Kirby, GRASSÉ & HOLLANDE Ann. Sci. nat., Paris (11) **12** 1950 pp. 25-64 figs.

Tricercomonas ophidiaie sp. n. (p. 625) from S. African snake *Causus rhombeatus*, FANTHAM & PORTER Proc. Zool. Soc. Lond. **120** 1950 pp. 599-646 figs.

Trichomonas pythonis sp. n. (p. 621) from *Python sebae*; *T. pseudaspis* sp. n. (p. 622) from *Pseudaspis cana*; *T. dispholidi* sp. n. (p. 623) from *Dispholidus typus*; *T. bitis* sp. n. (p. 623) from *Bitis gabonica*, S. Africa FANTHAM & PORTER Proc. Zool. Soc. Lond. **120** 1950 pp. 599-646 figs.; *T. thukunei* sp. n. (p. 66) from Indian guinea-pig, RAY & SINGH Proc. zool. Soc. Bengal **2** 1949 pp. 65-70 figs.; *T. guttula* sp. n. (p. 36) from wallaroo, *Macropus robustus*, KIRBY & HONIGBERG Univ. Calif. Publ. Zool. **55** 1950 pp. 35-66 figs.; *T. microti* sp. n.

(p. 261) from N. American vole and other rodents, WENRICH & SAXE J. Parasit. **36** 1950 pp. 261-269 figs.

(h) *Hypermastigida*

Holomastigotoides operculatum sp. n. (p. 71) from Indian termite (*indet.*), FROILANO DE MELLO An. Inst. Med. trop., Lisbon **6** [1950] pp. 71-74 figs.

(i) *Diplomonadida*

Giardia serpentis sp. n. (p. 627) from S. African snake *Causus rhombeatus*, FANTHAM & PORTER Proc. Zool. Soc. Lond. **120** 1950 pp. 599-646 figs.

Hexamita xenopi var. n. *ophidiaie* (p. 626) from S. African snakes, FANTHAM & PORTER Proc. Zool. Soc. Lond. **120** 1950 pp. 599-646 figs.

(j) *Polymonadadida*

[No record]

Flagellata incertae sedis

Callimastix regarded as swarm-spore of lower fungi, WEISSENBERG **1215**.

†*Ebriopsis aplanata* sp. n. (p. 159) Eocene, U.S.S.R., DEFLANDRE C.R. Acad. Sci. Paris, **231** (2) 1950 pp. 158-160 figs.

†*Falsebria* gen. n. (p. 159) *ambigua* (genotype) Paleocene, Jutland; *F. a. forma* n. *coralloidea*, *brachiolata* (p. 160), Eocene U.S.S.R.; *F. imitata* sp. n. (p. 160) Paleocene, Jutland; *F. rossica* sp. n. (p. 160) Eocene, U.S.S.R., DEFLANDRE C.R. Acad. Sci. Paris, **231** (2) 1950 pp. 158-160 figs.

†*Hovassebria sinistra* sp. n. (p. 160) Oligocene, Oamaru, DEFLANDRE C.R. Acad. Sci. Paris **231** (2) 1950 pp. 158-160 figs.

†*Hystrichosphaeridium pattei* sp. n. (p. 529) Jurassic, France, VALENSI Bull. Soc. géol. Fr. (5) **18** (6-7) 1948 pp. 537-550 figs.

†*Myerhystridium eupeplos* sp. n. (p. 542); *M. placophorum* sp. n. (p. 543); *M. echinoides* sp. n. (p. 544); *M. roquesi*, *deflandrei* spp. n. (p. 545); *M. cometes*, *mastigophorum*

spp. n. (p. 547); *M. polyedricum* sp. n. (p. 548), Jurassic, France, VALENSI Bull. Soc. géol. Fr. (5) 8 (6-7) 1948 pp. 537-550 figs.

†*Spongebria* gen. n. (p. 160) *marthae* sp. n. (genotype), Eocene, U.S.S.R., DEFLANDRE C.R. Acad. Sci. Paris 231 (2) 1950 pp. 158-160 figs.

3. SPOROZOA

A. COCCIDIOMORPHA

(a) Gregarinida

Lithocystis lankesteri sp. n. (p. 472) from *Sipunculus nudus*, Naples, GOODRICH Quart. J. micr. Sci. 91 1950 pp. 469-476 figs.

Tipulocystis gen. n. (p. 59) *maximae* sp. n. from larvae of *Tipula abdominalis* Czechoslovakia, KRAMAŘ Vestn. Českosl. zool. Společn. 14 1950 pp. 55-76 figs.

Urospora hardyi sp. n. (p. 473), *U. legeri* sp. n. (p. 476) from *Sipunculus nudus*, Naples, GOODRICH Quart. J. micr. Sci. 91 1950 pp. 469-476 figs.

(b) Coccidiida

Aggregata leandri sp. n. (p. 465) from prawn, *Leander squilla*, Naples, GOODRICH Quart. J. micr. Sci. 91 1950 pp. 465-467.

Eimeria petauristae sp. n. (pp. 156, 69) from Indian flying squirrel *Petaurista inornatus*, RAY & SINGH Proc. Indian Sci. Congr. 36th (3) 1949 p. 156 and Proc. zool. Soc. Bengal 3 1950 pp. 65-70 figs.

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B. CNIDOSPORIDIA

(d) Myxosporidia

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(e) Microsporidia

Bacillidium daphniae sp. n. (p. 131) from body-cavity of *Daphnia* spp., Bohemia, JIROVEC Zool. Anz. **140** 1942 pp. 129-133 figs.

Cocconema šulci sp. n. (p. 295) from sturgeon *Acipenser ruthenus*, Danube RAŠIN Vest. Českosl. zool. Společn. **13** 1949 pp. 295-298 figs.

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Plistophora debaisieuxi sp. n. (p. 177) from *Simulium* larvae, Belgium, JIROVEC Zool. Anz. **142** 1943 pp. 173-179 figs.

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(f) Actinomyxidia

[No record]

(g) Sarcosporidia

Sarcocystis atractaspidis sp. n. (p. 117) from snake *Atractaspis leucomelas*, Kenya, PARENZAN Boll. Soc. Nat. Napoli **55** 1947 pp. 117-119.

(h) Haplosporidia

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Sporozoa incertae sedis.

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Dermosporidium truttae sp. n. (p. 369) from trout *Trutta fario*, Czechoslovakia, WEISER Vest. Českosl. zool. Společn. **13** 1949 pp. 364-371 figs.

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4. CILIOPHORA

A. OPALINATA

Zelleriella: list of recorded spp., with hosts; *Z. carinii* sp. n. (p. 27), *Z. cuneata* sp. n. (p. 39), *Z. excavata* sp. n. (p. 48) from Argentine Amphibia, OTAMENDI Tesis Mus. La Plata No. 7 1945 pp. 1-70 figs.

B. CILIATA

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New freshwater ciliates from New Zealand, BARY 72.

(a) Holotrichida

Freshwater Holotrichida, New Zealand, BARY 71.

Ancistrina tihanyensis sp. n. (p. 204) from pallial cavity of *Lithoglyphus naticoides*, Hungary, RAABE Ann. Univ. M. Curie-Skłodowska 50 (5) 1950 pp. 197-215 figs.

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Chilodonella crassa sp. n. (p. 8) Marine, FAURÉ-FREMIET Arch. Anat. micr. Morph. exp. 39 (1) 1950 pp. 1-14 figs.

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(b) Heterotrichida

Freshwater Heterotrichida, New Zealand, BARY 71.

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(c) Oligotrichida

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Tintinnids of the waters of Monaco, RAMPI 913.

Tintinnids in the western Mediterranean, MASSUTÍ & NAVARRO 753.

(d) Entodiniomorpha

[No record]

(e) Hypotrichida

Uroleptus setiformis sp. n. (p. 12) freshwater, New Zealand, BARY Zool. Publ. Vict. Univ. Coll., N.Z. No. 2 1950 pp. 1-19 figs.

(f) Peritrichida

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Freshwater Peritrichida, New Zealand, BARY 71.

Carchesium aselli var. n. (p. 219) ovatum on *Asellus*; *C. erlangensis* sp. n. (p. 219) on *Cloeon*; *C. amphibiarum* sp. n. (p. 221) on tadpoles; *C. steneri* sp. n. (p. 222) ectozoic; *C. cyclopidarum* sp. n. (p. 222) on *Cyclops*; *C. trichopterarum* sp. n. (p. 222) ectozoic; *C. gracilis* sp. n. (p. 222) on *Stenophyllax*, Germany, NENNINGER Zool. Jahrb. (Syst.) 77 1948 pp. 169–266 figs.; *C. voighti* sp. n. (p. 614) attached to *Ligia oceanica*, North sea coast, MATTHES Zool. Jahrb. (Syst.) 78 1950 pp. 573–640 figs.

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Epistylis diaptomi var. n. (p. 179) infundibula on *Diaptomus*; *E. anophelis* sp. n. (p. 180) on mosquitos; *E. nympharum* var. n. (p. 180) major on *Chironomus*; *E. ovata* sp. n. (p. 181) on *Chironomus*; *E. pürneri* sp. n. (p. 182) on *Chironomus*; *E. bimarginata* sp. n. (p. 183) on leeches; *E. b.* var. n. (p. 183) urnula on crustacea; *E. balatonica* var. n. (p. 184) major on *Stenophyllax*; *E. liebmanni* sp. n. (p. 185) on algae; *E. lacustris* var. n. (p. 185) magna on *Cloen*; *E. kolbi* sp. n. (p. 186) on crustacea; *E. daphniae* var. n. (p. 186) infundibula on *Sida*; *E. longifila* sp. n. (p. 186) on *Eudiaptomus*; *E. agrionis* sp. n. (p. 18) on *Agrion*; *E. formosa* sp. n. (p. 188) on *Limnophilus*; *E. astaci* sp. n. (p. 188) on crayfish; *E. stammeri* sp. n. (p. 188) on *Asellus*; *E. plicatilis* var. n. (p. 190) dytiscarum in *Dytiscus*; *E. p.* var. n. (p. 191) on tadpoles; *E. fuitans* var. n. (p. 191) insidens on Tentipedidae etc., Germany, NENNINGER Zool. Jahrb. (Syst.) 77 1948 pp. 169–266 figs.; *E. cordylophorae* sp. n. (p. 252) attached to *Cordylophora*, brackish water, Germany, CASPERS Zool. Jahrb. (syst.) 78 1949 pp. 251–262 figs.

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Intranstylum elegans sp. n. (p. 210) on crustaceans, Germany, NENNINGER

Zool. Jahrb. (Syst.) 77 1948 pp. 169–266 figs.

Lagenophyrus stammeri sp. n. (p. 351) attached to ostracod, LUST Zool. Jahrb. (Syst.) 79 1950 pp. 350–352 figs.

Opercularia lichtensteini var. n. (p. 194) macrostyla on *Dytiscus*; *O. rhanti* sp. n. (p. 196) on *Rhantus*; *O. doliiforma* sp. n. (p. 197) on *Ilybius*; *O. hydrophori* sp. n. (p. 197) on *Hydroporus*; *O. hyphydri* sp. n. (p. 197) on *Hybridrus*; *O. gyrini* sp. n. (p. 198) on *Gyrinus*; *O. philydri* sp. n. (p. 198) on *Philydrus*; *O. scyphostyla* sp. n. (p. 199) on *Philydrus*; *O. halipli* sp. n. (p. 201) on *Haliplus*; *O. proceras* sp. n. (p. 201) on *Haliplus*; *O. corisae* var. n. (p. 203) incisa on *Sigara*; *O. longigula* sp. n. (p. 204) on *Cyclops*; *O. sigarae* sp. n. (p. 204) on *Sigara*; *O. pleae* sp. n. (p. 205) on *Plea*; *O. asellicola* var. n. (p. 206) diversa on *Asellus*; *O. cartilaginipes* sp. n. (p. 207) on *Megapus*; *O. articulata* var. n. (p. 208) macrodisca on beetles; *O. berberina* var. n. (p. 208) similis on *Noterus*; *O. b.* var. n. (p. 108) dichotoma on crustaceans, Germany, NENNINGER Zool. Jahrb. (Syst.) 77 1948 pp. 169–266 figs.; *O. stammeri* sp. n. p. 602, attached to *Oniscus asellus*, MATTHES Zool. Jahrb. (Syst.) 78 1950 pp. 573–640 figs.; *O. tretzi* sp. n. (p. 438) on ostracods; *O. reifi* sp. n. (p. 438) on *Anoetus*; *O. astacicola* sp. n. (p. 439) on *Astacus torrentum*, Germany, MATTHES Zool. Jahrb. (Syst.) 79 1950 pp. 437–448 figs.; *O. articulata* formm. n. styliiformis, extensa (p. 364) on *Hydrous piceus*; *O. corisae* formm. n. incisa, arcuata (pp. 366, 367) on *Sigara* spp.; *O. coronata*, reichenowi spp. n. (p. 369) on *Corexa punctata* and *Sigara striata* respectively, Germany, LUST Zool. Jahrb. (Syst.) 79 1950 pp. 353–436 figs.

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Orbopercularia gen. n. (p. 371) [genotype *Opercularia berberina* Linn.]; *O. serrata* sp. n. (p. 372) on *Limnoxenus oblongus* and *Anacaena limbata*; *O. lichtensteini* form. n. *hebetata* (p. 373) on *Hydroporus tristis*; *O. turgida* sp. n. (p. 374) on various insects; *O. mattheri* sp. n. (p. 374) on *Philydrus frontalis*; *O. nenningerae* sp. n. (p. 375) on various insects; *O. ilybii* form n. *fusiforma* (p. 377) on *Agabus uliginosus* and *Ilybius fuliginosus*; *O. wetzchi* sp. n. (p. 378) on *Aciilius sulcatus*; *O. ominosa* sp. n. (p. 379) on *Gyrinus marinus* and *G. substriatus*; *O. inclinata* sp. n. (p. 380) on *Agabus sturmi* and *Colymbetes fuscus*; *O. haliplorum, sitiens* spp. n. (p. 381) on various insects; *O. illustris* sp. n. (p. 382) on *Hydroporus tristis*; *O. hebmanni* sp. n. (p. 382) on various insects; *O. stillerae* sp. n. (p. 383) on *Graphoderes cinereus*; *O. quasiinvoluta* sp. n. (p. 383) on *Dytiscus marginalis*; *O. triangulata* sp. n. (p. 384) on *Rhantus punctatus*, Germany, LUST Zool. Jahrb. (Syst.) 79 1950 pp. 353-436 figs.

Pxydium canthocampti var. n. (p. 191) *singularis* on *Philydrus*; *P. ventriosa* sp. n. (p. 192) on *Coretha*; *P. aselli* var. n. (p. 193) *fusiformum* on *Asellus*; *P. piscicolae* sp. n. (p. 193) on leeches; *P. kahli* sp. n. (p. 194) on *Asellus*, Germany, NENNINGER Zool. Jahrb. (Syst.) 77 1948 pp. 169-266 figs.; *P. stammeri, minuta* spp. n. (p. 362) on various insects, Germany, LUST Zool. Jahrb. (Syst.) 79 1950 pp. 353-436 figs.

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Scyphidia amphibiarum sp. n. (p. 172) on tadpoles; *S. hirudineorum* sp. n. (p. 172) on leeches; *S. beebei* sp. n. (p. 173) *Cyclops*; *S. helobellae* sp. n. (p. 174) on leech; *S. haemopsis* sp. n. (p. 175) on leech; *S. ostracodorum* sp. n. (p. 175) on ostracod, Germany, NENNINGER Zool. Jahrb. (Syst.) 77 1948 pp. 169-266 figs.

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